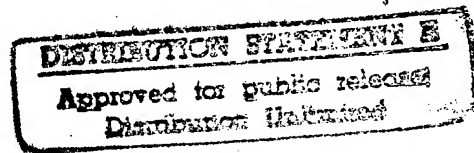


**FINAL SUBMITTAL**



**VOLUME IV B**  
**APPENDICES H-I (CONTINUED)**

**FEASIBILITY STUDY FOR EXPANSION OF  
ENERGY MONITORING AND CONTROL SYSTEM (EMCS)  
FORT DRUM, NEW YORK**

Prepared for

**NORFOLK DISTRICT  
CORPS OF ENGINEERS, CENAO-EN-MC  
803 FRONT STREET, NORFOLK, VIRGINIA 23510**

Under

**U.S. ARMY ENGINEER DISTRICT, MOBILE  
INDEFINITE DELIVERY A-E CONTRACT  
CONTRACT NO. DACA01-94-D-0033  
DELIVERY ORDER NO. 0006**



**DENVER, COLORADO  
ATLANTA, GEORGIA  
DALLAS, TEXAS  
EL PASO, TEXAS**

**DTIC QUALITY INSPECTED 3**




DEPARTMENT OF THE ARMY  
CONSTRUCTION ENGINEERING RESEARCH LABORATORIES, CORPS OF ENGINEERS  
P.O. BOX 9005  
CHAMPAIGN, ILLINOIS 61826-9005

REPLY TO

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17 Sep 1997

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Marie Wakefield,  
Librarian Engineering



**COMPUTER SIMULATIONS**  
BUILDING 10000

BASE RUN

DTIC QUALITY INSPECTED 3

19971022 145

# LDL PROCESSOR INPUT DATA

3/26/1995 12:19:33 LDL RUN 1

```

* 3 *
* 4 *
* 5 *      $-----$
* 6 *      $EZ-DOE LOADS INPUT$
* 7 *      $-----$
* 8 *
* 9 *      $ GENERAL PROJECT DATA
* 10 *
* 11 * TITLE LINE-1 * EMC ENGINEERS INC. *
* 12 * LINE-2 *EZDOE - ELITE SOFTWARE DEVELOPMENT INC*
* 13 * LINE-3 * DENVER, CO 80227 *
* 14 *
* 15 * LINE-4 *DIV CMD/CNTL BLDG *
* 16 * LINE-5 *BASE MODEL *..
* 17 *
* 18 * ABORT ERRORS ..
* 19 * DIAGNOSTIC WARNINGS ..
* 20 * LOADS-REPORT SUMMARY=(LS-C,LS-D) ..
* 21 * BUILDING-LOCATION GROSS-AREA = 80294
* 22 * X-REF = 0.0
* 23 * Y-REF = 0.0 ..
* 24 * RUN-PERIOD JAN 1 1994 THRU DEC 31 1994 ..
* 25 *
* 26 *
* 27 *      $ SCHEDULES
* 28 *
* 29 * FULL_ON_D =DAY-SCHEDULE (1,24) (1.) ..
* 30 *
* 31 * FULL_OFF_D =DAY-SCHEDULE (1,24) (0.) ..
* 32 *
* 33 * PEOPLE_D =DAY-SCHEDULE (1,5) (0.)
* 34 *      (6,10) (1.)
* 35 *      (11,12) (0.8,0.4)
* 36 *      (13,14) (0.8)
* 37 *      (15,16) (1.)
* 38 *      (17,24) (0.) ..
* 39 *
* 40 * LIGHT_ON_D =DAY-SCHEDULE (1,3) (0.)
* 41 *      (4,5) (0.1)
* 42 *      (6) (0.2)
* 43 *      (7,9) (0.9)
* 44 *      (10,11) (1.)
* 45 *      (12,13) (0.8)

```

\* 46 \*           (14,15) (0.9)  
 \* 47 \*           (16,20) (1.,0.8,0.7,0.4,0.2)  
 \* 48 \*           (21,24) (0.) ..  
 \* 49 \*  
 \* 50 \*  
 \* 51 \* FULL\_ON\_W =WEEK-SCHEDULE (ALL) FULL\_ON\_D ..  
 \* 52 \*  
 \* 53 \* FULL\_OFF\_W =WEEK-SCHEDULE (ALL) FULL\_OFF\_D ..  
 \* 54 \*  
 \* 55 \* PEOPLE\_W =WEEK-SCHEDULE (WD) PEOPLE\_D  
 \* 56 \*           (SAT) FULL\_OFF\_D  
 \* 57 \*           (SUN) FULL\_OFF\_D  
 \* 58 \*           (HOL) PEOPLE\_D ..  
 \* 59 \*  
 \* 60 \* LIGHT\_ON\_W =WEEK-SCHEDULE (WD) LIGHT\_ON\_D  
 \* 61 \*           (SAT) FULL\_OFF\_D  
 \* 62 \*           (SUN) FULL\_OFF\_D  
 \* 63 \*           (HOL) LIGHT\_ON\_D ..  
 \* 64 \*  
 \* 65 \*  
 \* 66 \* FULL\_ON =SCHEDULE THRU DEC 31 FULL\_ON\_W ..  
 \* 67 \*  
 \* 68 \* FULL\_OFF =SCHEDULE THRU DEC 31 FULL\_OFF\_W ..  
 \* 69 \*  
 \* 70 \* OCCUPANCY =SCHEDULE THRU DEC 31 PEOPLE\_W ..  
 \* 71 \*  
 \* 72 \* LIGHT\_SCHD =SCHEDULE THRU DEC 31 LIGHT\_ON\_W ..  
 \* 73 \*  
 \* 74 \*  
 \* 75 \*  
 \* 76 \*           \$ CONSTRUCTION TYPES  
 \* 77 \*  
 \* 78 \*  
 \* 79 \*  
 \* 80 \*  
 \* 81 \* \$ BASEMENT FLOOR & WALLS  
 \* 82 \* FLOORCON =CONSTRUCTION U-VALUE = 0.100 ..  
 \* 83 \* ROOF\_CON =CONSTRUCTION U-VALUE = 0.050 ..  
 \* 84 \*  
 \* 85 \* \$ EXTERIOR WALL  
 \* 86 \* WALL\_CON =CONSTRUCTION U-VALUE = 0.200 ..  
 \* 87 \* DOORCON =CONSTRUCTION U-VALUE = 1.000 ..  
 \* 88 \* AIRWALL =CONSTRUCTION U-VALUE = 20.000 ..  
 \* 89 \*  
 \* 90 \* G\_TYPE1 =GLASS-TYPE GLASS-TYPE-CODE = 1  
 \* 91 \*           PANES = 1  
 \* 92 \*           GLASS-CONDUCTANCE = 1.130 ..  
 \* 93 \*  
 \* 94 \*  
 \* 95 \*

```

* 96 *
* 97 *      $ SPACE DESCRIPTION
* 98 *
* 99 * BASEMENT =SPACE  AREA = 21765.0  VOLUME = 195885.0
* 100 *      AZIMUTH = 315  ZONE-TYPE = CONDITIONED
* 101 *      PEOPLE-SCHEDULE = OCCUPANCY  NUMBER-OF-PEOPLE = 125.0
* 102 *      PEOPLE-HEAT-GAIN = 640.0
* 103 *      LIGHTING-TYPE = REC-FLUOR-RV  LIGHTING-KW = 20.1
* 104 *      LIGHTING-SCHEDULE = LIGHT_SCHD
* 105 *      INF-METHOD = AIR-CHANGE  AIR-CHANGES/HR = 0.33
* 106 *      INF-SCHEDULE = FULL_ON  ..
* 107 *
* 108 *      U-W  HEIGHT = 9.0  WIDTH = 139.0  CONS = FLOORCON
* 109 *      AZIMUTH = 90  ..
* 110 *
* 111 *      U-W  HEIGHT = 9.0  WIDTH = 240.0  CONS = FLOORCON
* 112 *      AZIMUTH = 180  ..
* 113 *
* 114 *      U-W  HEIGHT = 9.0  WIDTH = 139.0  CONS = FLOORCON
* 115 *      AZIMUTH = 270  ..
* 116 *
* 117 *      U-W  HEIGHT = 9.0  WIDTH = 240.0  CONS = FLOORCON ..
* 118 *
* 119 *      U-W  HEIGHT = 112.0  WIDTH = 240.0  CONS = FLOORCON ..
* 120 *
* 121 *
* 122 * 1ST_FLOOR =SPACE  AREA = 21765.0  VOLUME = 195885.0
* 123 *      AZIMUTH = 315  ZONE-TYPE = CONDITIONED
* 124 *      PEOPLE-SCHEDULE = OCCUPANCY  NUMBER-OF-PEOPLE = 125.0
* 125 *      PEOPLE-HEAT-GAIN = 640.0
* 126 *      LIGHTING-TYPE = REC-FLUOR-RV  LIGHTING-KW = 32.7
* 127 *      LIGHTING-SCHEDULE = LIGHT_SCHD
* 128 *      INF-METHOD = AIR-CHANGE  AIR-CHANGES/HR = 0.4
* 129 *      INF-SCHEDULE = FULL_ON  ..
* 130 *
* 131 *      E-W  HEIGHT = 9.0  WIDTH = 139.0  CONS = WALL_CON
* 132 *      AZIMUTH = 90  ..
* 133 *
* 134 *      WINDOW HEIGHT = 6.0  WIDTH = 4.0  G-T = G_TYPE1
* 135 *      MULTIPLIER = 8.0  ..
* 136 *
* 137 *      DOOR  HEIGHT = 7.5  WIDTH = 3.0  CONS = DOORCON
* 138 *      MULTIPLIER = 2.0  ..
* 139 *
* 140 *      E-W  HEIGHT = 9.0  WIDTH = 240.0  CONS = WALL_CON
* 141 *      AZIMUTH = 180  ..
* 142 *
* 143 *      WINDOW HEIGHT = 6.0  WIDTH = 4.0  G-T = G_TYPE1
* 144 *      MULTIPLIER = 22.0  ..
* 145 *

```

\* 146 \* DOOR HEIGHT = 7.5 WIDTH = 3.0 CONS = DOORCON  
 \* 147 \* MULTIPLIER = 2.0 ..  
 \* 148 \*  
 \* 149 \* E-W HEIGHT = 9.0 WIDTH = 139.0 CONS = WALL\_CON  
 \* 150 \* AZIMUTH = 270 ..  
 \* 151 \*  
 \* 152 \* WINDOW HEIGHT = 6.0 WIDTH = 4.0 G-T = G\_TYPE1  
 \* 153 \* MULTIPLIER = 8.0 ..  
 \* 154 \*  
 \* 155 \* DOOR HEIGHT = 7.5 WIDTH = 3.0 CONS = DOORCON  
 \* 156 \* MULTIPLIER = 2.0 ..  
 \* 157 \*  
 \* 158 \* E-W HEIGHT = 9.0 WIDTH = 240.0 CONS = WALL\_CON  
 \* 159 \* AZIMUTH = 0 ..  
 \* 160 \*  
 \* 161 \* WINDOW HEIGHT = 6.0 WIDTH = 4.0 G-T = G\_TYPE1  
 \* 162 \* MULTIPLIER = 18.0 ..  
 \* 163 \*  
 \* 164 \* DOOR HEIGHT = 7.5 WIDTH = 3.0 CONS = DOORCON  
 \* 165 \* MULTIPLIER = 2.0 ..  
 \* 166 \*  
 \* 167 \*  
 \* 168 \* 2ND\_FLOOR =SPACE AREA = 21765.0 VOLUME = 195885.0  
 \* 169 \* AZIMUTH = 315 ZONE-TYPE = CONDITIONED  
 \* 170 \* PEOPLE-SCHEDULE = OCCUPANCY NUMBER-OF-PEOPLE = 125.0  
 \* 171 \* PEOPLE-HEAT-GAIN = 640.0  
 \* 172 \* LIGHTING-TYPE = REC-FLUOR-RV LIGHTING-KW = 36.9  
 \* 173 \* LIGHTING-SCHEDULE = LIGHT\_SCHD  
 \* 174 \* INF-METHOD = AIR-CHANGE AIR-CHANGES/HR = 0.4  
 \* 175 \* INF-SCHEDULE = FULL\_ON ..  
 \* 176 \*  
 \* 177 \* E-W HEIGHT = 9.0 WIDTH = 139.0 CONS = WALL\_CON  
 \* 178 \* AZIMUTH = 90 ..  
 \* 179 \*  
 \* 180 \* WINDOW HEIGHT = 4.0 WIDTH = 4.0 G-T = G\_TYPE1  
 \* 181 \* MULTIPLIER = 8.0 ..  
 \* 182 \*  
 \* 183 \* WINDOW HEIGHT = 8.0 WIDTH = 8.3 G-T = G\_TYPE1 ..  
 \* 184 \*  
 \* 185 \* E-W HEIGHT = 9.0 WIDTH = 240.0 CONS = WALL\_CON  
 \* 186 \* AZIMUTH = 180 ..  
 \* 187 \*  
 \* 188 \* WINDOW HEIGHT = 4.0 WIDTH = 4.0 G-T = G\_TYPE1  
 \* 189 \* MULTIPLIER = 22.0 ..  
 \* 190 \*  
 \* 191 \* WINDOW HEIGHT = 8.0 WIDTH = 8.3 G-T = G\_TYPE1 ..  
 \* 192 \*  
 \* 193 \* E-W HEIGHT = 9.0 WIDTH = 139.0 CONS = WALL\_CON  
 \* 194 \* AZIMUTH = 270 ..  
 \* 195 \*

```

* 196 *      WINDOW HEIGHT = 4.0 WIDTH = 4.0 G-T = G_TYPE1
* 197 *      MULTIPLIER = 8.0 ..
* 198 *
* 199 *      WINDOW HEIGHT = 8.0 WIDTH = 8.3 G-T = G_TYPE1 ..
* 200 *
* 201 *      E-W  HEIGHT = 9.0 WIDTH = 240.0 CONS = WALL_CON
* 202 *      AZIMUTH = 0 ..
* 203 *
* 204 *      WINDOW HEIGHT = 4.0 WIDTH = 4.0 G-T = G_TYPE1
* 205 *      MULTIPLIER = 18.0 ..
* 206 *
* 207 *      WINDOW HEIGHT = 8.0 WIDTH = 8.3 G-T = G_TYPE1 ..
* 208 *
* 209 *      ROOF  HEIGHT = 112.0 WIDTH = 240.0 CONS = ROOF_CON
* 210 *      TILT = 0 ..
* 211 *
* 212 *
* 213 * 1ST_FLR_B =SPACE  AREA = 5000.0 VOLUME = 45000.0
* 214 *      AZIMUTH = 315 ZONE-TYPE = CONDITIONED
* 215 *      AREA/PERSON = 100.0 EQUIP-SCHEDULE = OCCUPANCY
* 216 *      EQUIPMENT-KW = 0.75 EQUIP-SENSIBLE = 0.0
* 217 *      FLOOR-WEIGHT = 0.1 INF-METHOD = AIR-CHANGE
* 218 *      AIR-CHANGES/HR = 0.4 INF-SCHEDULE = FULL_ON ..
* 219 *
* 220 *      I-W  HEIGHT = 9.0 WIDTH = 1000.0 CONS = AIRWALL
* 221 *      NEXT-TO = 1ST_FLOOR ..
* 222 *
* 223 *
* 224 * 2ND_FLR_B =SPACE  AREA = 5000.0 VOLUME = 45000.0
* 225 *      AZIMUTH = 315 ZONE-TYPE = CONDITIONED
* 226 *      AREA/PERSON = 100.0 EQUIP-SCHEDULE = OCCUPANCY
* 227 *      EQUIPMENT-KW = 1.12 EQUIP-SENSIBLE = 0.0
* 228 *      FLOOR-WEIGHT = 0.1 INF-METHOD = AIR-CHANGE
* 229 *      AIR-CHANGES/HR = 0.4 INF-SCHEDULE = FULL_ON ..
* 230 *
* 231 *      I-W  HEIGHT = 9.0 WIDTH = 1000.0 CONS = AIRWALL
* 232 *      NEXT-TO = 2ND_FLOOR ..
* 233 *
* 234 *
* 235 * BASEMENT_B =SPACE  AREA = 5000.0 VOLUME = 45000.0
* 236 *      ZONE-TYPE = CONDITIONED AREA/PERSON = 100.0
* 237 *      INF-METHOD = AIR-CHANGE AIR-CHANGES/HR = 0.33
* 238 *      INF-SCHEDULE = FULL_ON ..
* 239 *
* 240 *      I-W  HEIGHT = 9.0 WIDTH = 1000.0 CONS = AIRWALL
* 241 *      NEXT-TO = BASEMENT ..
* 242 *
* 243 *
* 244 * END ..
* 245 * COMPUTE LOADS ..

```

\* 246 \*

\* 247 \* INPUT SYSTEMS ..

# SDL PROCESSOR INPUT DATA

3/26/1995 12:19:33 SDL RUN 1

\* 248 \*

\* 249 \*

\* 250 \* \$-----\$

\* 251 \* \$EZ-DOE SYSTEMS INPUT\$

\* 252 \* \$-----\$

\* 253 \*

\* 254 \* \$ GENERAL PROJECT DATA

\* 255 \*

\* 256 \* TITLE LINE-1 \* EMC ENGINEERS INC. \*

\* 257 \* LINE-2 \*EZDOE - ELITE SOFTWARE DEVELOPMENT INC\*

\* 258 \* LINE-3 \* DENVER, CO 80227 \*

\* 259 \*

\* 260 \* LINE-4 \*DIV CMD/CNTL BLDG \*

\* 261 \* LINE-5 \*BASE MODEL \* ..

\* 262 \* ABORT ERRORS ..

\* 263 \* DIAGNOSTIC WARNINGS ..

\* 264 \* SYSTEMS-REPORT SUMMARY=(SS-A,SS-B,SS-C,SS-K,SS-O) ..

\* 265 \*

\* 266 \* \$ SCHEDULES

\* 267 \*

\* 268 \* FULL\_ON\_D =DAY-SCHEDULE (1,24) (1.) ..

\* 269 \* FULL\_OFF\_D =DAY-SCHEDULE (1,24) (0.) ..

\* 270 \* HEAT\_68\_D =DAY-SCHEDULE (1,24) (73.) ..

\* 271 \* COOL\_75\_D =DAY-SCHEDULE (1,24) (75.) ..

\* 272 \*

\* 273 \* FULL\_ON\_W =WEEK-SCHEDULE (ALL) FULL\_ON\_D ..

\* 274 \*

\* 275 \* FULL\_OFF\_W =WEEK-SCHEDULE (ALL) FULL\_OFF\_D ..

\* 276 \*

\* 277 \* HEAT\_68\_W =WEEK-SCHEDULE (ALL) HEAT\_68\_D ..

\* 278 \*

\* 279 \* COOL\_75\_W =WEEK-SCHEDULE (ALL) COOL\_75\_D ..

\* 280 \*

\* 281 \*

\* 282 \* FULL\_ON =SCHEDULE THRU DEC 31 FULL\_ON\_W ..

\* 283 \*

\* 284 \* FULL\_OFF =SCHEDULE THRU DEC 31 FULL\_OFF\_W ..

\* 285 \*

\* 286 \* HEAT\_68 =SCHEDULE THRU DEC 31 HEAT\_68\_W ..

\* 287 \*

```

* 288 * COOL_75 =SCHEDULE THRU DEC 31 COOL_75_W ..
* 289 *
* 290 * $ SUMMER VENTILATION FANS
* 291 * SF_ON =SCHEDULE THRU MAY 31 FULL_OFF_W
* 292 *      THRU SEP 15 FULL_ON_W
* 293 *      THRU DEC 31 FULL_OFF_W ..
* 294 *
* 295 *
* 296 *
* 297 *      $ ZONE DESCRIPTION
* 298 *
* 299 * BASEMENT =ZONE  DESIGN-HEAT-T = 68.0 DESIGN-COOL-T = 75.0
* 300 *      HEAT-TEMP-SCH = HEAT_68 COOL-TEMP-SCH = COOL_75
* 301 *      ZONE-TYPE = CONDITIONED
* 302 *      THERMOSTAT-TYPE = PROPORTIONAL
* 303 *      BASEBOARD-CTRL = THERMOSTATIC
* 304 *      BASEBOARD-RATING = -63200. ASSIGNED-CFM = 14850.
* 305 *      OUTSIDE-AIR-CFM = 5750. SIZING-OPTION = FROM-LOADS
* 306 *      HEATING-CAPACITY = -185550.0 ..
* 307 *
* 308 * 1ST_FLOOR =ZONE  DESIGN-HEAT-T = 68.0 DESIGN-COOL-T = 75.0
* 309 *      HEAT-TEMP-SCH = HEAT_68 ZONE-TYPE = CONDITIONED
* 310 *      THERMOSTAT-TYPE = PROPORTIONAL
* 311 *      BASEBOARD-CTRL = THERMOSTATIC
* 312 *      BASEBOARD-RATING = -327500. ASSIGNED-CFM = 4160.
* 313 *      OUTSIDE-AIR-CFM = 4160. SIZING-OPTION = FROM-LOADS ..
* 314 *
* 315 * 2ND_FLOOR =ZONE  DESIGN-HEAT-T = 68.0 DESIGN-COOL-T = 75.0
* 316 *      HEAT-TEMP-SCH = HEAT_68 ZONE-TYPE = CONDITIONED
* 317 *      THERMOSTAT-TYPE = PROPORTIONAL
* 318 *      BASEBOARD-CTRL = THERMOSTATIC
* 319 *      BASEBOARD-RATING = -365100. ASSIGNED-CFM = 4485.
* 320 *      OUTSIDE-AIR-CFM = 4485. SIZING-OPTION = FROM-LOADS ..
* 321 *
* 322 * 1ST_FLR_B =ZONE  DESIGN-HEAT-T = 68.0 DESIGN-COOL-T = 75.0
* 323 *      ZONE-TYPE = CONDITIONED
* 324 *      THERMOSTAT-TYPE = PROPORTIONAL
* 325 *      BASEBOARD-CTRL = THERMOSTATIC ASSIGNED-CFM = 46795.
* 326 *      OUTSIDE-AIR-CFM = 46795. SIZING-OPTION = FROM-LOADS
* 327 *      EXHAUST-CFM = 2908.0 ..
* 328 *
* 329 * 2ND_FLR_B =ZONE  DESIGN-HEAT-T = 68.0 DESIGN-COOL-T = 75.0
* 330 *      ZONE-TYPE = CONDITIONED
* 331 *      THERMOSTAT-TYPE = PROPORTIONAL
* 332 *      BASEBOARD-CTRL = THERMOSTATIC ASSIGNED-CFM = 52996.
* 333 *      OUTSIDE-AIR-CFM = 52996. SIZING-OPTION = FROM-LOADS
* 334 *      EXHAUST-CFM = 4056.0 ..
* 335 *
* 336 * BASEMENT_B =ZONE  DESIGN-HEAT-T = 68.0 DESIGN-COOL-T = 75.0
* 337 *      ZONE-TYPE = CONDITIONED

```



\* 338 \* THERMOSTAT-TYPE = PROPORTIONAL  
 \* 339 \* BASEBOARD-CTRL = THERMOSTATIC ASSIGNED-CFM = 6950.  
 \* 340 \* OUTSIDE-AIR-CFM = 6950. SIZING-OPTION = FROM-LOADS ..  
 \* 341 \*  
 \* 342 \*  
 \* 343 \* \$ SYSTEM DESCRIPTION  
 \* 344 \*  
 \* 345 \* AHU\_1-14 =SYSTEM SYSTEM-TYPE = SZRH  
 \* 346 \* MAX-SUPPLY-T = 120.0 MIN-SUPPLY-T = 50.0  
 \* 347 \* PREHEAT-T = 68.0 MIN-HUMIDITY = 30.0  
 \* 348 \* ECONO-LIMIT-T = 65.0 ECONO-LOW-LIMIT = 55.0  
 \* 349 \* OA-CONTROL = FIXED SUPPLY-CFM = 14850.  
 \* 350 \* RETURN-CFM = 9100. RATED-CFM = 14850.  
 \* 351 \* MIN-OUTSIDE-AIR = 0.39 SUPPLY-DELTA-T = 2.4  
 \* 352 \* SUPPLY-KW = 0.00078  
 \* 353 \* MOTOR-PLACEMENT = OUTSIDE-AIRFLOW  
 \* 354 \* NIGHT-CYCLE-CTRL = STAY-OFF NIGHT-VENT-DT = 0.0  
 \* 355 \* MIN-CFM-RATIO = 1.0 REHEAT-DELTA-T = 4.  
 \* 356 \* COOLING-CAPACITY = 484089. COOL-SH-CAP = 373406.  
 \* 357 \* HEATING-CAPACITY = -403140. FURNACE-AUX = 0.  
 \* 358 \* PREHEAT-SOURCE = HOT-WATER  
 \* 359 \* ZONE-NAMES = (BASEMENT) ..  
 \* 360 \*  
 \* 361 \* AHU\_15&16 =SYSTEM SYSTEM-TYPE = HVSYS  
 \* 362 \* MAX-SUPPLY-T = 120.0 MIN-HUMIDITY = 30.0  
 \* 363 \* ECONO-LIMIT-T = 65.0 ECONO-LOW-LIMIT = 55.0  
 \* 364 \* HEAT-CONTROL = COLDEST SUPPLY-CFM = 4160.  
 \* 365 \* RATED-CFM = 4160. MIN-OUTSIDE-AIR = 1.0  
 \* 366 \* SUPPLY-DELTA-T = 2.4 SUPPLY-KW = 0.00078  
 \* 367 \* MOTOR-PLACEMENT = OUTSIDE-AIRFLOW  
 \* 368 \* NIGHT-CYCLE-CTRL = STAY-OFF NIGHT-VENT-DT = 0.0  
 \* 369 \* HEATING-CAPACITY = -336960. FURNACE-AUX = 0.  
 \* 370 \* ZONE-NAMES = (1ST\_FLOOR) ..  
 \* 371 \*  
 \* 372 \* AHU\_17&18 =SYSTEM SYSTEM-TYPE = HVSYS  
 \* 373 \* MAX-SUPPLY-T = 120.0 MIN-HUMIDITY = 30.0  
 \* 374 \* ECONO-LIMIT-T = 65.0 ECONO-LOW-LIMIT = 55.0  
 \* 375 \* HEAT-CONTROL = COLDEST SUPPLY-CFM = 4485.  
 \* 376 \* RATED-CFM = 4485. MIN-OUTSIDE-AIR = 1.0  
 \* 377 \* SUPPLY-DELTA-T = 2.4 SUPPLY-KW = 0.00078  
 \* 378 \* NIGHT-CYCLE-CTRL = STAY-OFF NIGHT-VENT-DT = 0.0  
 \* 379 \* HEATING-CAPACITY = -363680. FURNACE-AUX = 0.  
 \* 380 \* ZONE-NAMES = (2ND\_FLOOR) ..  
 \* 381 \*  
 \* 382 \* SF\_1&2 =SYSTEM SYSTEM-TYPE = HVSYS  
 \* 383 \* MAX-SUPPLY-T = 120.0 HEATING-SCHEDULE = FULL\_OFF  
 \* 384 \* MIN-HUMIDITY = 30.0 ECONO-LIMIT-T = 65.0  
 \* 385 \* ECONO-LOW-LIMIT = 55.0 SUPPLY-CFM = 46795.  
 \* 386 \* RATED-CFM = 46795. MIN-OUTSIDE-AIR = 1.0  
 \* 387 \* FAN-SCHEDULE = SF\_ON SUPPLY-DELTA-T = 2.4

```

* 388 *      SUPPLY-KW = 0.0006
* 389 *      MOTOR-PLACEMENT = OUTSIDE-AIRFLOW
* 390 *      NIGHT-CYCLE-CTRL = STAY-OFF NIGHT-VENT-DT = 0.0
* 391 *      FURNACE-AUX = 0.
* 392 *      ZONE-NAMES = (1ST_FLR_B) ..
* 393 *
* 394 * SF_3&4 =SYSTEM  SYSTEM-TYPE = HVSYS
* 395 *      MAX-SUPPLY-T = 120.0 HEATING-SCHEDULE = FULL_OFF
* 396 *      MIN-HUMIDITY = 30.0 ECONO-LIMIT-T = 65.0
* 397 *      ECONO-LOW-LIMIT = 55.0 SUPPLY-CFM = 52996.
* 398 *      RATED-CFM = 52996. MIN-OUTSIDE-AIR = 1.0
* 399 *      FAN-SCHEDULE = SF_ON SUPPLY-DELTA-T = 2.4
* 400 *      SUPPLY-KW = 0.0006
* 401 *      MOTOR-PLACEMENT = OUTSIDE-AIRFLOW
* 402 *      NIGHT-CYCLE-CTRL = STAY-OFF NIGHT-VENT-DT = 0.0
* 403 *      FURNACE-AUX = 0.
* 404 *      ZONE-NAMES = (2ND_FLR_B) ..
* 405 *
* 406 * SF_31-33 =SYSTEM  SYSTEM-TYPE = HVSYS
* 407 *      MAX-SUPPLY-T = 120.0 HEATING-SCHEDULE = FULL_OFF
* 408 *      MIN-HUMIDITY = 30.0 ECONO-LIMIT-T = 65.0
* 409 *      ECONO-LOW-LIMIT = 55.0 SUPPLY-CFM = 6950.
* 410 *      RATED-CFM = 6950. MIN-OUTSIDE-AIR = 1.0
* 411 *      FAN-SCHEDULE = SF_ON SUPPLY-DELTA-T = 2.4
* 412 *      SUPPLY-KW = 0.0006
* 413 *      MOTOR-PLACEMENT = OUTSIDE-AIRFLOW
* 414 *      NIGHT-CYCLE-CTRL = STAY-OFF NIGHT-VENT-DT = 0.0
* 415 *      FURNACE-AUX = 0.
* 416 *      ZONE-NAMES = (BASEMENT_B) ..
* 417 *
* 418 * END ..
* 419 * COMPUTE SYSTEMS ..
* 420 *
* 421 * INPUT PLANT ..

```

# PDL PROCESSOR INPUT DATA

3/26/1995 12:19:33 PDL RUN 1

```

* 422 *
* 423 *
* 424 *      $-----$
* 425 *      $EZ-DOE PLANTS INPUT$
* 426 *      $-----$
* 427 *
* 428 *      $ GENERAL PROJECT DATA
* 429 *

```

```

* 430 * TITLE LINE-1 *   EMC   ENGINEERS   INC.   *
* 431 *   LINE-2 *EZDOE - ELITE SOFTWARE DEVELOPMENT INC*
* 432 *   LINE-3 *   DENVER,   CO   80227   *
* 433 *
* 434 *   LINE-4 *DIV CMD/CNTL BLDG           *
* 435 *   LINE-5 *BASE MODEL                 * ..
* 436 *
* 437 * ABORT           ERRORS ..
* 438 * DIAGNOSTIC      WARNINGS ..
* 439 * PLANT-REPORT    SUMMARY=(PS-A,PS-B,BEPS)
* 440 * ..
* 441 *
* 442 *           $ SCHEDULES
* 443 *
* 444 * FULL_ON_D =DAY-SCHEDULE (1,24) (1.) ..
* 445 *
* 446 *
* 447 * FULL_ON_W =WEEK-SCHEDULE (ALL) FULL_ON_D ..
* 448 *
* 449 *
* 450 * FULL_ON   =SCHEDULE THRU DEC 31 FULL_ON_W ..
* 451 *
* 452 *
* 453 *
* 454 *           $ EQUIPMENT DESCRIPTION
* 455 *
* 456 * HE1&2   =PLANT-EQUIPMENT TYPE = HTANK-STORAGE
* 457 *           SIZE = 2.5 ..
* 458 *
* 459 * CH1&2   =PLANT-EQUIPMENT TYPE = OPEN-REC-CHLR
* 460 *           SIZE = 0.4 INSTALLED-NUMBER = 2
* 461 *           MAX-NUMBER-AVAIL = 2 ..
* 462 *
* 463 * PLANT-PARAMETERS OPEN-REC-COND-TYPE = AIR CHILL-WTR-T = 45.
* 464 *           CCIRC-HEAD = 45.0 HCIRC-HEAD = 55.0 ..
* 465 *
* 466 *
* 467 * ENERGY-RESOURCE RESOURCE = STEAM SOURCE-SITE-EFF = 1.000 ..
* 468 * ENERGY-RESOURCE RESOURCE = ELECTRICITY ..
* 469 *
* 470 * ENERGY-STORAGE HEAT-STORE-RATE = 2.48 HEAT-SUPPLY-RATE = 2.48
* 471 *           HTANK-BASE-T = 212.0 HEAT-STORE-SCH = FULL_ON ..
* 472 *
* 473 * HEAT-RECOVERY
* 474 *           SUPPLY-1 = (HTANK-STORAGE)
* 475 *           DEMAND-1 = (SPACE-HEAT,PROCESS-HEAT) ..
* 476 *
* 477 *
* 478 *
* 479 * END ..

```



\*480 \* COMPUTE PLANT ..

\*481 \* STOP ..

ENERGY TYPE IN SITE MBTU-	STEAM	ELECTRICITY	RECOVERED
CATEGORY OF USE			
SPACE HEAT	8226.92	0.00	0.00
SPACE COOL	0.00	29.71	0.00
HVAC AUX	0.00	1188.68	0.00
DOM HOT WTR	0.00	0.00	0.00
AUX SOLAR	0.00	0.00	0.00
LIGHTS	0.00	923.34	0.00
VERT TRANS	0.00	0.00	0.00
MISC EQUIP	0.00	16.26	0.00
	-----	-----	-----
TOTAL	8226.92	2157.99	0.00

TOTAL SITE ENERGY 10385.03 MBTU 129.3 KBTU/SQFT-YR GROSS-AREA 129.3 KBTU/SQFT-YR NET-ARE  
TOTAL SOURCE ENERGY 14707.69 MBTU 183.2 KBTU/SQFT-YR GROSS-AREA 183.2 KBTU/SQFT-YR NET-A

PERCENT OF HOURS ANY SYSTEM ZONE OUTSIDE OF THROTTLING RANGE = 4.2  
PERCENT OF HOURS ANY PLANT LOAD NOT SATISFIED = 0.0

NOTE ELECTRICITY AND/OR FUEL USED TO GENERATE ELECTRICITY IS APPORTIONED BASED  
ON THE YEARLY DEMAND. ALL OTHER ENERGY TYPES ARE APPORTIONED HOURLY.

MO	UTILITY- STEAM	ELECTRICITY
JAN	TOTAL(MBTU) 1428.159	129.534
	PEAK(KBTU) 2822.185	384.629
	DY/HR 5/12	31/16
FEB	TOTAL(MBTU) 1056.088	120.729
	PEAK(KBTU) 2505.584	384.629
	DY/HR 5/10	28/16
MAR	TOTAL(MBTU) 1031.521	136.762
	PEAK(KBTU) 2411.038	384.629
	DY/HR 27/ 6	31/16
APR	TOTAL(MBTU) 568.996	127.804
	PEAK(KBTU) 1800.828	384.629
	DY/HR 1/ 5	29/16
MAY	TOTAL(MBTU) 324.068	133.189
	PEAK(KBTU) 1424.96	399.683
	DY/HR 3/ 2	31/16
JUN	TOTAL(MBTU) 478.507	291.336
	PEAK(KBTU) 1877.024	665.997
	DY/HR 8/ 5	28/16
JUL	TOTAL(MBTU) 260.594	303.47
	PEAK(KBTU) 1815.529	714.231
	DY/HR 25/ 5	18/16
AUG	TOTAL(MBTU) 432.929	305.576
	PEAK(KBTU) 1811.127	689.933
	DY/HR 22/ 5	9/16
SEP	TOTAL(MBTU) 433.423	215.59
	PEAK(KBTU) 1920.588	706.832
	DY/HR 10/ 6	2/16
OCT	TOTAL(MBTU) 414.384	129.54
	PEAK(KBTU) 1436.926	384.629
	DY/HR 25/ 5	31/16
NOV	TOTAL(MBTU) 701.125	131.417
	PEAK(KBTU) 2057.133	384.629
	DY/HR 27/ 7	30/16

DEC	TOTAL(MBTU)	1097.138	133.148
	PEAK(KBTU)	2453.404	384.629
	DY/HR	3/10	30/16
	ONE YEAR	8226.932	2158.094
	USE/PEAK	2822.185	714.231

**COMPUTER SIMULATIONS**  
**BUILDING 10000**

**RUN 1 - SCHEDULE START/STOP AND NIGHT SETBACK**



LDL PROCESSOR INPUT DATA

3/27/1995 10:56: 1 LDL RUN 1

```

* 3 *
* 4 *
* 5 *
* 6 * $-----$
* 7 * $EZ - DOE LOADS INPUT $
* 8 * $-----$
* 9 *
* 10 * $ GENERAL PROJECT DATA
* 11 * TITLE LINE-1 * EMC ENGINEERS INC. *
* 12 * LINE-2 *EZDOE - ELITE SOFTWARE DEVELOPMENT INC*
* 13 * LINE-3 * DENVER, CO 80227 *
* 14 *
* 15 * LINE-4 *DIV CMD/CNTL BLDG *
* 16 * LINE-5 *MODEL WITH SET BACK * ..
* 17 *
* 18 * ABORT ERRORS ..
* 19 * DIAGNOSTIC WARNINGS ..
* 20 * LOADS-REPORT SUMMARY=(LS-C,LS-D) ..
* 21 * BUILDING-LOCATION GROSS-AREA = 80294
* 22 * X-REF = 0.0
* 23 * Y-REF = 0.0 ..
* 24 * RUN-PERIOD JAN 1 1994 THRU DEC 31 1994 ..
* 25 *
* 26 * $ SCHEDULES
* 27 *
* 28 *
* 29 * FULL_ON_D =DAY-SCHEDULE (1,24) (1.) ..
* 30 *
* 31 * FULL_OFF_D =DAY-SCHEDULE (1,24) (0.) ..
* 32 *
* 33 * PEOPLE_D =DAY-SCHEDULE (1,5) (0.)
* 34 * (6,10) (1.)
* 35 * (11,12) (0.8,0.4)
* 36 * (13,14) (0.8)
* 37 * (15,16) (1.)
* 38 * (17,24) (0.) ..
* 39 *
* 40 * LIGHT_ON_D =DAY-SCHEDULE (1,3) (0.)
* 41 * (4,5) (0.1)
* 42 * (6) (0.2)
* 43 * (7,9) (0.9)
* 44 * (10,11) (1.)
* 45 * (12,13) (0.8)
* 46 * (14,15) (0.9)
* 47 * (16,20) (1.,0.8,0.7,0.4,0.2)
* 48 * (21,24) (0.) ..
* 49 *
* 50 *
* 51 * FULL_ON_W =WEEK-SCHEDULE (ALL) FULL_ON_D ..
* 52 *
* 53 * FULL_OFF_W =WEEK-SCHEDULE (ALL) FULL_OFF_D ..
* 54 *
* 55 * PEOPLE_W =WEEK-SCHEDULE (WD) PEOPLE_D
* 56 * (SAT) FULL_OFF_D
* 57 * (SUN) FULL_OFF_D
* 58 * (HOL) PEOPLE_D ..
* 59 *
* 60 * LIGHT_ON_W =WEEK-SCHEDULE (WD) LIGHT_ON_D
* 61 * (SAT) FULL_OFF_D
* 62 * (SUN) FULL_OFF_D
* 63 * (HOL) LIGHT_ON_D ..
* 64 *
* 65 *
* 66 * FULL_ON =SCHEDULE THRU DEC 31 FULL_ON_W ..
* 67 *
* 68 * FULL_OFF =SCHEDULE THRU DEC 31 FULL_OFF_W ..
* 69 *
* 70 * OCCUPANCY =SCHEDULE THRU DEC 31 PEOPLE_W ..
* 71 *
* 72 * LIGHT_SCHD =SCHEDULE THRU DEC 31 LIGHT_ON_W ..
* 73 *
* 74 *
* 75 *
* 76 * $ CONSTRUCTION TYPES
* 77 *
* 78 *
* 79 *
* 80 *
* 81 * $ BASEMENT FLOOR & WALLS
* 82 * FLOORCON =CONSTRUCTION U-VALUE = 0.100 ..
* 83 * ROOF_CON =CONSTRUCTION U-VALUE = 0.050 ..
* 84 *
* 85 * $ EXTERIOR WALL
* 86 * WALL_CON =CONSTRUCTION U-VALUE = 0.200 ..
* 87 * DOORCON =CONSTRUCTION U-VALUE = 1.000 ..
* 88 * AIRWALL =CONSTRUCTION U-VALUE = 20.000 ..
* 89 *
* 90 * G_TYPE1 =GLASS-TYPE GLASS-TYPE-CODE = 1
* 91 * PANES = 1
* 92 * GLASS-CONDUCTANCE = 1.130 ..
* 93 *
* 94 *
* 95 *
* 96 *
* 97 *
* 98 * $ SPAGE DESCRIPTION
* 99 * BASEMENT =SPACE AREA = 21765.0 VOLUME = 195885.0
* 100 * AZIMUTH = 315 ZONE-TYPE = CONDITIONED
* 101 * PEOPLE-SCHEDULE = OCCUPANCY NUMBER-OF-PEOPLE = 125.0
* 102 * PEOPLE-HEAT-GAIN = 640.0

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* 103 *          LIGHTING-TYPE = REC-FLUOR-RV LIGHTING-KW = 20.1
* 104 *          LIGHTING-SCHEDULE = LIGHT_SCHD
* 105 *          INF-METHOD = AIR-CHANGE AIR-CHANGES/HR = 0.33
* 106 *          INF-SCHEDULE = FULL_ON ..
* 107 *
* 108 *          U-W          HEIGHT = 9.0 WIDTH = 139.0 CONS = FLOORCON
* 109 *          AZIMUTH = 90 ..
* 110 *
* 111 *          U-W          HEIGHT = 9.0 WIDTH = 240.0 CONS = FLOORCON
* 112 *          AZIMUTH = 180 ..
* 113 *
* 114 *          U-W          HEIGHT = 9.0 WIDTH = 139.0 CONS = FLOORCON
* 115 *          AZIMUTH = 270 ..
* 116 *
* 117 *          U-W          HEIGHT = 9.0 WIDTH = 240.0 CONS = FLOORCON ..
* 118 *
* 119 *          U-W          HEIGHT = 112.0 WIDTH = 240.0 CONS = FLOORCON ..
* 120 *
* 121 *
* 122 * 1ST_FLOOR =SPACE      AREA = 21765.0 VOLUME = 195885.0
* 123 *                      AZIMUTH = 315 ZONE-TYPE = CONDITIONED
* 124 *                      PEOPLE-SCHEDULE = OCCUPANCY NUMBER-OF-PEOPLE = 125.0
* 125 *                      PEOPLE-HEAT-GAIN = 640.0
* 126 *                      LIGHTING-TYPE = REC-FLUOR-RV LIGHTING-KW = 32.7
* 127 *                      LIGHTING-SCHEDULE = LIGHT_SCHD
* 128 *                      INF-METHOD = AIR-CHANGE AIR-CHANGES/HR = 0.4
* 129 *                      INF-SCHEDULE = FULL_ON ..
* 130 *
* 131 *          E-W          HEIGHT = 9.0 WIDTH = 139.0 CONS = WALL_CON
* 132 *          AZIMUTH = 90 ..
* 133 *
* 134 *          WINDOW HEIGHT = 6.0 WIDTH = 4.0 G-T = G_TYPE1
* 135 *          MULTIPLIER = 8.0 ..
* 136 *
* 137 *          DOOR          HEIGHT = 7.5 WIDTH = 3.0 CONS = DOORCON
* 138 *          MULTIPLIER = 2.0 ..
* 139 *
* 140 *          E-W          HEIGHT = 9.0 WIDTH = 240.0 CONS = WALL_CON
* 141 *          AZIMUTH = 180 ..
* 142 *
* 143 *          WINDOW HEIGHT = 6.0 WIDTH = 4.0 G-T = G_TYPE1
* 144 *          MULTIPLIER = 22.0 ..
* 145 *
* 146 *          DOOR          HEIGHT = 7.5 WIDTH = 3.0 CONS = DOORCON
* 147 *          MULTIPLIER = 2.0 ..
* 148 *
* 149 *          E-W          HEIGHT = 9.0 WIDTH = 139.0 CONS = WALL_CON
* 150 *          AZIMUTH = 270 ..
* 151 *
* 152 *          WINDOW HEIGHT = 6.0 WIDTH = 4.0 G-T = G_TYPE1
* 153 *          MULTIPLIER = 8.0 ..
* 154 *
* 155 *          DOOR          HEIGHT = 7.5 WIDTH = 3.0 CONS = DOORCON
* 156 *          MULTIPLIER = 2.0 ..
* 157 *
* 158 *          E-W          HEIGHT = 9.0 WIDTH = 240.0 CONS = WALL_CON
* 159 *          AZIMUTH = 0 ..
* 160 *
* 161 *          WINDOW HEIGHT = 6.0 WIDTH = 4.0 G-T = G_TYPE1
* 162 *          MULTIPLIER = 18.0 ..
* 163 *
* 164 *          DOOR          HEIGHT = 7.5 WIDTH = 3.0 CONS = DOORCON
* 165 *          MULTIPLIER = 2.0 ..
* 166 *
* 167 *
* 168 * 2ND_FLOOR =SPACE      AREA = 21765.0 VOLUME = 195885.0
* 169 *                      AZIMUTH = 315 ZONE-TYPE = CONDITIONED
* 170 *                      PEOPLE-SCHEDULE = OCCUPANCY NUMBER-OF-PEOPLE = 125.0
* 171 *                      PEOPLE-HEAT-GAIN = 640.0
* 172 *                      LIGHTING-TYPE = REC-FLUOR-RV LIGHTING-KW = 36.9
* 173 *                      LIGHTING-SCHEDULE = LIGHT_SCHD
* 174 *                      INF-METHOD = AIR-CHANGE AIR-CHANGES/HR = 0.4
* 175 *                      INF-SCHEDULE = FULL_ON ..
* 176 *
* 177 *          E-W          HEIGHT = 9.0 WIDTH = 139.0 CONS = WALL_CON
* 178 *          AZIMUTH = 90 ..
* 179 *
* 180 *          WINDOW HEIGHT = 4.0 WIDTH = 4.0 G-T = G_TYPE1
* 181 *          MULTIPLIER = 8.0 ..
* 182 *
* 183 *          WINDOW HEIGHT = 8.0 WIDTH = 8.3 G-T = G_TYPE1 ..
* 184 *
* 185 *          E-W          HEIGHT = 9.0 WIDTH = 240.0 CONS = WALL_CON
* 186 *          AZIMUTH = 180 ..
* 187 *
* 188 *          WINDOW HEIGHT = 4.0 WIDTH = 4.0 G-T = G_TYPE1
* 189 *          MULTIPLIER = 22.0 ..
* 190 *
* 191 *          WINDOW HEIGHT = 8.0 WIDTH = 8.3 G-T = G_TYPE1 ..
* 192 *
* 193 *          E-W          HEIGHT = 9.0 WIDTH = 139.0 CONS = WALL_CON
* 194 *          AZIMUTH = 270 ..
* 195 *
* 196 *          WINDOW HEIGHT = 4.0 WIDTH = 4.0 G-T = G_TYPE1
* 197 *          MULTIPLIER = 8.0 ..
* 198 *
* 199 *          WINDOW HEIGHT = 8.0 WIDTH = 8.3 G-T = G_TYPE1 ..
* 200 *
* 201 *          E-W          HEIGHT = 9.0 WIDTH = 240.0 CONS = WALL_CON
* 202 *          AZIMUTH = 0 ..
* 203 *
* 204 *          WINDOW HEIGHT = 4.0 WIDTH = 4.0 G-T = G_TYPE1
* 205 *          MULTIPLIER = 18.0 ..
* 206 *
* 207 *          WINDOW HEIGHT = 8.0 WIDTH = 8.3 G-T = G_TYPE1 ..
* 208 *
* 209 *          ROOF          HEIGHT = 112.0 WIDTH = 240.0 CONS = ROOF_CON
* 210 *          TILT = 0 ..

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* 211 *
* 212 *
* 213 * 1ST_FLR_B =SPACE AREA = 5000.0 VOLUME = 45000.0
* 214 * AZIMUTH = 315 ZONE-TYPE = CONDITIONED
* 215 * AREA/PERSON = 100.0 EQUIP-SCHEDULE = OCCUPANCY
* 216 * EQUIPMENT-KW = 0.75 EQUIP-SENSIBLE = 0.0
* 217 * FLOOR-WEIGHT = 0.1 INF-METHOD = AIR-CHANGE
* 218 * AIR-CHANGES/HR = 0.4 INF-SCHEDULE = FULL_ON ..
* 219 *
* 220 * I-W HEIGHT = 9.0 WIDTH = 1000.0 CONS = AIRWALL
* 221 * NEXT-TO = 1ST_FLOOR ..
* 222 *
* 223 *
* 224 * 2ND_FLR_B =SPACE AREA = 5000.0 VOLUME = 45000.0
* 225 * AZIMUTH = 315 ZONE-TYPE = CONDITIONED
* 226 * AREA/PERSON = 100.0 EQUIP-SCHEDULE = OCCUPANCY
* 227 * EQUIPMENT-KW = 1.12 EQUIP-SENSIBLE = 0.0
* 228 * FLOOR-WEIGHT = 0.1 INF-METHOD = AIR-CHANGE
* 229 * AIR-CHANGES/HR = 0.4 INF-SCHEDULE = FULL_ON ..
* 230 *
* 231 * I-W HEIGHT = 9.0 WIDTH = 1000.0 CONS = AIRWALL
* 232 * NEXT-TO = 2ND_FLOOR ..
* 233 *
* 234 *
* 235 * BASEMENT_B =SPACE AREA = 5000.0 VOLUME = 45000.0
* 236 * ZONE-TYPE = CONDITIONED AREA/PERSON = 100.0
* 237 * INF-METHOD = AIR-CHANGE AIR-CHANGES/HR = 0.33
* 238 * INF-SCHEDULE = FULL_ON ..
* 239 *
* 240 * I-W HEIGHT = 9.0 WIDTH = 1000.0 CONS = AIRWALL
* 241 * NEXT-TO = BASEMENT ..
* 242 *
* 243 *
* 244 * END ..
* 245 * COMPUTE LOADS ..
* 246 *
* 247 * INPUT SYSTEMS ..

```

SDL PROCESSOR INPUT DATA

3/27/1995 10:56: 1 SDL RUN 1

```

* 248 *
* 249 *
* 250 *
* 251 * $-----$
* 252 * $EZ - DOE SYSTEMS INPUT $
* 253 * $-----$
* 254 *
* 255 * $ GENERAL PROJECT DATA
* 256 *
* 256 * TITLE LINE-1 * EMC ENGINEERS INC. *
* 257 * LINE-2 *EZDOE - ELITE SOFTWARE DEVELOPMENT INC*
* 258 * LINE-3 * DENVER, CO 80227 *
* 259 *
* 260 * LINE-4 *DIV CMD/CNTL BLDG *
* 261 * LINE-5 *MODEL WITH SET BACK * ..
* 262 * ABORT ERRORS ..
* 263 * DIAGNOSTIC WARNINGS ..
* 264 * SYSTEMS-REPORT SUMMARY=(SS-A,SS-B,SS-C,SS-F,SS-H) ..
* 265 *
* 266 * $ SCHEDULES
* 267 *
* 268 * FULL_ON_D =DAY-SCHEDULE (1,24) (1.) ..
* 269 * FULL_OFF_D =DAY-SCHEDULE (1,24) (0.) ..
* 270 * HEAT_68_D =DAY-SCHEDULE (1,24) (73.) ..
* 271 * COOL_75_D =DAY-SCHEDULE (1,24) (75.) ..
* 272 * FAN_WSB_D =DAY-SCHEDULE (1,4) (0.)
* 273 * (5,16) (1.)
* 274 * (17,24) (0.) ..
* 275 * HT68_WSB_D =DAY-SCHEDULE (1,4) (50.)
* 276 * (5,16) (73.)
* 277 * (17,24) (50.) ..
* 278 * HEAT_50_D =DAY-SCHEDULE (1,24) (50.) ..
* 279 * CL75_WSB_D =DAY-SCHEDULE (1,4) (85.)
* 280 * (5,16) (75.)
* 281 * (17,24) (85.) ..
* 282 * COOL_85_D =DAY-SCHEDULE (1,24) (85.) ..
* 283 *
* 284 * FULL_ON_W =WEEK-SCHEDULE (ALL) FULL_ON_D ..
* 285 *
* 286 * FULL_OFF_W =WEEK-SCHEDULE (ALL) FULL_OFF_D ..
* 287 *
* 288 * HEAT_68_W =WEEK-SCHEDULE (ALL) HEAT_68_D ..
* 289 *
* 290 * COOL_75_W =WEEK-SCHEDULE (ALL) COOL_75_D ..
* 291 *
* 292 * FAN_WSB_W =WEEK-SCHEDULE (WD) FAN_WSB_D
* 293 * (SAT) FULL_OFF_D
* 294 * (SUN) FULL_OFF_D
* 295 * (HOL) FAN_WSB_D ..
* 296 *
* 297 * HT68_WSB_W =WEEK-SCHEDULE (WD) HT68_WSB_D
* 298 * (SAT) HEAT_50_D
* 299 * (SUN) HEAT_50_D
* 300 * (HOL) HT68_WSB_D ..
* 301 *
* 302 * CL75_WSB_W =WEEK-SCHEDULE (WD) CL75_WSB_D
* 303 * (SAT) COOL_85_D
* 304 * (SUN) COOL_85_D
* 305 * (HOL) CL75_WSB_D ..
* 306 *
* 307 *
* 308 * FULL_ON =SCHEDULE THRU DEC 31 FULL_ON_W ..
* 309 *
* 310 * FULL_OFF =SCHEDULE THRU DEC 31 FULL_OFF_W ..
* 311 *
* 312 * HEAT_68 =SCHEDULE THRU DEC 31 HEAT_68_W ..
* 313 *
* 314 * COOL_75 =SCHEDULE THRU DEC 31 COOL_75_W ..
* 315 *
* 316 * $ SUMMER VENTILATION FANS
* 317 * SF_ON =SCHEDULE THRU MAY 31 FULL_OFF_W
* 318 * THRU SEP 15 FULL_ON_W
* 319 * THRU DEC 31 FULL_OFF_W ..
* 320 *
* 321 * $ SUMMER VENTILATION W SB
* 322 * SF_WSB =SCHEDULE THRU MAY 31 FULL_OFF_W
* 323 * THRU SEP 1 FAN_WSB_W
* 324 * THRU DEC 31 FULL_OFF_W ..
* 325 *
* 326 * $ AHU FAN SET BACK SCHED
* 327 * FAN_WSB =SCHEDULE THRU DEC 31 FAN_WSB_W ..
* 328 *
* 329 * $ HEATING SCHED W SET BACK
* 330 * HT68_W_SB =SCHEDULE THRU DEC 31 HT68_WSB_W ..
* 331 *
* 332 * $ COOLING SCHED W SET BACK
* 333 * CL75_W_SB =SCHEDULE THRU DEC 31 CL75_WSB_W ..
* 334 *
* 335 *
* 336 *
* 337 * $ ZONE DESCRIPTION
* 338 *
* 339 * BASEMENT =ZONE DESIGN-HEAT-T = 68.0 DESIGN-COOL-T = 75.0
* 340 * HEAT-TEMP-SCH = HT68_W_SB COOL-TEMP-SCH = CL75_W_SB
* 341 * ZONE-TYPE = CONDITIONED
* 342 * THERMOSTAT-TYPE = PROPORTIONAL
* 343 * BASEBOARD-CTRL = THERMOSTATIC
* 344 * BASEBOARD-RATING = -63200. ASSIGNED-CFM = 14850.
* 345 * OUTSIDE-AIR-CFM = 5750. SIZING-OPTION = FROM-LOADS
* 346 * HEATING-CAPACITY = -185550.0 ..
* 347 *

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* 348 * 1ST_FLOOR =ZONE DESIGN-HEAT-T = 68.0 DESIGN-COOL-T = 75.0
* 349 * HEAT-TEMP-SCH = HT68 W SB ZONE-TYPE = CONDITIONED
* 350 * THERMOSTAT-TYPE = PROPORTIONAL
* 351 * BASEBOARD-CTRL = THERMOSTATIC
* 352 * BASEBOARD-RATING = -327500. ASSIGNED-CFM = 4160.
* 353 * OUTSIDE-AIR-CFM = 4160. SIZING-OPTION = FROM-LOADS ..
* 354 *
* 355 * 2ND_FLOOR =ZONE DESIGN-HEAT-T = 68.0 DESIGN-COOL-T = 75.0
* 356 * HEAT-TEMP-SCH = HT68 W SB ZONE-TYPE = CONDITIONED
* 357 * THERMOSTAT-TYPE = PROPORTIONAL
* 358 * BASEBOARD-CTRL = THERMOSTATIC
* 359 * BASEBOARD-RATING = -365100. ASSIGNED-CFM = 4485.
* 360 * OUTSIDE-AIR-CFM = 4485. SIZING-OPTION = FROM-LOADS ..
* 361 *
* 362 * 1ST_FLR_B =ZONE DESIGN-HEAT-T = 68.0 DESIGN-COOL-T = 75.0
* 363 * ZONE-TYPE = CONDITIONED
* 364 * THERMOSTAT-TYPE = PROPORTIONAL
* 365 * BASEBOARD-CTRL = THERMOSTATIC ASSIGNED-CFM = 46795.
* 366 * OUTSIDE-AIR-CFM = 46795. SIZING-OPTION = FROM-LOADS
* 367 * EXHAUST-CFM = 2908.0 ..
* 368 *
* 369 * 2ND_FLR_B =ZONE DESIGN-HEAT-T = 68.0 DESIGN-COOL-T = 75.0
* 370 * ZONE-TYPE = CONDITIONED
* 371 * THERMOSTAT-TYPE = PROPORTIONAL
* 372 * BASEBOARD-CTRL = THERMOSTATIC ASSIGNED-CFM = 52996.
* 373 * OUTSIDE-AIR-CFM = 52996. SIZING-OPTION = FROM-LOADS
* 374 * EXHAUST-CFM = 4056.0 ..
* 375 *
* 376 * BASEMENT_B =ZONE DESIGN-HEAT-T = 68.0 DESIGN-COOL-T = 75.0
* 377 * ZONE-TYPE = CONDITIONED
* 378 * THERMOSTAT-TYPE = PROPORTIONAL
* 379 * BASEBOARD-CTRL = THERMOSTATIC ASSIGNED-CFM = 6950.
* 380 * OUTSIDE-AIR-CFM = 6950. SIZING-OPTION = FROM-LOADS ..
* 381 *
* 382 *
* 383 * § SYSTEM DESCRIPTION
* 384 *
* 385 * AHU_1-14 =SYSTEM SYSTEM-TYPE = SZRH
* 386 * MAX-SUPPLY-T = 120.0 MIN-SUPPLY-T = 50.0
* 387 * PREHEAT-T = 68.0 MIN-HUMIDITY = 30.0
* 388 * ECONO-LIMIT-T = 65.0 ECONO-LOW-LIMIT = 55.0
* 389 * OA-CONTROL = FIXED SUPPLY-CFM = 14850.
* 390 * RETURN-CFM = 9100. RATED-CFM = 14850.
* 391 * MIN-OUTSIDE-AIR = 0.39 FAN-SCHEDULE = FAN_WSB
* 392 * SUPPLY-DELTA-T = 2.4 SUPPLY-KW = 0.00078
* 393 * MOTOR-PLACEMENT = OUTSIDE-AIRFLOW
* 394 * NIGHT-CYCLE-CTRL = CYCLE-ON-ANY NIGHT-VENT-DT = 0.0
* 395 * MIN-CFM-RATIO = 1.0 REHEAT-DELTA-T = 4.
* 396 * COOLING-CAPACITY = 484089. COOL-SH-CAP = 373406.
* 397 * HEATING-CAPACITY = -403140. FURNACE-AUX = 0.
* 398 * PREHEAT-SOURCE = HOT-WATER
* 399 * ZONE-NAMES = (BASEMENT) ..
* 400 *
* 401 * AHU_15&16 =SYSTEM SYSTEM-TYPE = HVSYS
* 402 * MAX-SUPPLY-T = 120.0 MIN-HUMIDITY = 30.0
* 403 * ECONO-LIMIT-T = 65.0 ECONO-LOW-LIMIT = 55.0
* 404 * HEAT-CONTROL = COLDEST SUPPLY-CFM = 4160.
* 405 * RATED-CFM = 4160. MIN-OUTSIDE-AIR = 1.0
* 406 * FAN-SCHEDULE = FAN_WSB SUPPLY-DELTA-T = 2.4
* 407 * SUPPLY-KW = 0.00078
* 408 * MOTOR-PLACEMENT = OUTSIDE-AIRFLOW
* 409 * NIGHT-CYCLE-CTRL = CYCLE-ON-ANY NIGHT-VENT-DT = 0.0
* 410 * HEATING-CAPACITY = -336960. FURNACE-AUX = 0.
* 411 * ZONE-NAMES = (1ST_FLOOR) ..
* 412 *
* 413 * AHU_17&18 =SYSTEM SYSTEM-TYPE = HVSYS
* 414 * MAX-SUPPLY-T = 120.0 MIN-HUMIDITY = 30.0
* 415 * ECONO-LIMIT-T = 65.0 ECONO-LOW-LIMIT = 55.0
* 416 * HEAT-CONTROL = COLDEST SUPPLY-CFM = 4485.
* 417 * RATED-CFM = 4485. MIN-OUTSIDE-AIR = 1.0
* 418 * FAN-SCHEDULE = FAN_WSB SUPPLY-DELTA-T = 2.4
* 419 * SUPPLY-KW = 0.00078 NIGHT-CYCLE-CTRL = CYCLE-ON-ANY
* 420 * NIGHT-VENT-DT = 0.0 HEATING-CAPACITY = -363680.
* 421 * FURNACE-AUX = 0.
* 422 * ZONE-NAMES = (2ND_FLOOR) ..
* 423 *
* 424 * SF_1&2 =SYSTEM SYSTEM-TYPE = HVSYS
* 425 * MAX-SUPPLY-T = 120.0 HEATING-SCHEDULE = FULL_OFF
* 426 * MIN-HUMIDITY = 30.0 ECONO-LIMIT-T = 65.0
* 427 * ECONO-LOW-LIMIT = 55.0 SUPPLY-CFM = 46795.
* 428 * RATED-CFM = 46795. MIN-OUTSIDE-AIR = 1.0
* 429 * FAN-SCHEDULE = SF_WSB SUPPLY-DELTA-T = 2.4
* 430 * SUPPLY-KW = 0.0006
* 431 * MOTOR-PLACEMENT = OUTSIDE-AIRFLOW
* 432 * NIGHT-CYCLE-CTRL = CYCLE-ON-ANY NIGHT-VENT-DT = 0.0
* 433 * FURNACE-AUX = 0.
* 434 * ZONE-NAMES = (1ST_FLR_B) ..
* 435 *
* 436 * SF_3&4 =SYSTEM SYSTEM-TYPE = HVSYS
* 437 * MAX-SUPPLY-T = 120.0 HEATING-SCHEDULE = FULL_OFF
* 438 * MIN-HUMIDITY = 30.0 ECONO-LIMIT-T = 65.0
* 439 * ECONO-LOW-LIMIT = 55.0 SUPPLY-CFM = 52996.
* 440 * RATED-CFM = 52996. MIN-OUTSIDE-AIR = 1.0
* 441 * FAN-SCHEDULE = SF_WSB SUPPLY-DELTA-T = 2.4
* 442 * SUPPLY-KW = 0.0006
* 443 * MOTOR-PLACEMENT = OUTSIDE-AIRFLOW
* 444 * NIGHT-CYCLE-CTRL = CYCLE-ON-ANY NIGHT-VENT-DT = 0.0
* 445 * FURNACE-AUX = 0.
* 446 * ZONE-NAMES = (2ND_FLR_B) ..
* 447 *
* 448 * SF_31-33 =SYSTEM SYSTEM-TYPE = HVSYS
* 449 * MAX-SUPPLY-T = 120.0 HEATING-SCHEDULE = FULL_OFF
* 450 * MIN-HUMIDITY = 30.0 ECONO-LIMIT-T = 65.0
* 451 * ECONO-LOW-LIMIT = 55.0 SUPPLY-CFM = 6950.
* 452 * RATED-CFM = 6950. MIN-OUTSIDE-AIR = 1.0
* 453 * FAN-SCHEDULE = SF_WSB SUPPLY-DELTA-T = 2.4
* 454 * SUPPLY-KW = 0.0006
* 455 * MOTOR-PLACEMENT = OUTSIDE-AIRFLOW

```

```
* 456 *          NIGHT-CYCLE-CTRL = CYCLE-ON-ANY  NIGHT-VENT-DT = 0.0
* 457 *          FURNACE-AUX = 0.
* 458 *          ZONE-NAMES = (BASEMENT_B)  ..
* 459 *
* 460 * END  ..
* 461 * COMPUTE SYSTEMS  ..
* 462 *
* 463 * INPUT PLANT  ..
```

PDL PROCESSOR INPUT DATA

3/27/1995 10:56: 1 PDL RUN 1

```

* 464 *
* 465 *
* 466 *      $-----$
* 467 *      $ E Z - D O E   P L A N T S   I N P U T $
* 468 *      $-----$
* 469 *
* 470 *      $ GENERAL PROJECT DATA
* 471 *
* 472 * TITLE LINE-1 *      EMC      ENGINEERS      INC.      *
* 473 *      LINE-2 *EZDOE - ELITE SOFTWARE DEVELOPMENT INC*
* 474 *      LINE-3 *      DENVER,      CO      80227      *
* 475 *
* 476 *      LINE-4 *DIV CMD/CNTL BLDG      *
* 477 *      LINE-5 *MODEL WITH SET BACK      * ..
* 478 *
* 479 * ABORT      ERRORS ..
* 480 * DIAGNOSTIC      WARNINGS ..
* 481 * PLANT-REPORT      SUMMARY=(PS-A,PS-B,BEPS)
* 482 * ..
* 483 *
* 484 *      $ SCHEDULES
* 485 *
* 486 * FULL_ON_D =DAY-SCHEDULE (1,24) (1.) ..
* 487 *
* 488 *
* 489 * FULL_ON_W =WEEK-SCHEDULE (ALL) FULL_ON_D ..
* 490 *
* 491 *
* 492 * FULL_ON =SCHEDULE THRU DEC 31 FULL_ON_W ..
* 493 *
* 494 *
* 495 *
* 496 *      $ EQUIPMENT DESCRIPTION
* 497 *
* 498 * HE1&2 =PLANT-EQUIPMENT TYPE = HTANK-STORAGE
* 499 *      SIZE = 2.5 ..
* 500 *
* 501 * CH1&2 =PLANT-EQUIPMENT TYPE = OPEN-REC-CHLR
* 502 *      SIZE = 0.4 INSTALLED-NUMBER = 2
* 503 *      MAX-NUMBER-AVAIL = 2 ..
* 504 *
* 505 * PLANT-PARAMETERS OPEN-REC-COND-TYPE = AIR CHILL-WTR-T = 45.
* 506 *      CCIRC-HEAD = 45.0 HCIRC-HEAD = 55.0 ..
* 507 *
* 508 *
* 509 * ENERGY-RESOURCE RESOURCE = STEAM SOURCE-SITE-EFF = 1.000 ..
* 510 * ENERGY-RESOURCE RESOURCE = ELECTRICITY ..
* 511 *
* 512 * ENERGY-STORAGE HEAT-STORE-RATE = 2.48 HEAT-SUPPLY-RATE = 2.48
* 513 *      HTANK-BASE-T = 212.0 HEAT-STORE-SCH = FULL_ON ..
* 514 *
* 515 *      HEAT-RECOVERY
* 516 *      SUPPLY-1 = (HTANK-STORAGE)
* 517 *      DEMAND-1 = (SPACE-HEAT,PROCESS-HEAT) ..
* 518 *
* 519 *
* 520 *
* 521 * END ..
* 522 * COMPUTE PLANT ..
* 523 * STOP ..

```

ENERGY TYPE IN SITE MBTU-	STEAM	ELECTRICITY	RECOVERED
CATEGORY OF USE			
SPACE HEAT	3,436.05	0.00	
SPACE COOL	0.00	10.44	
HVAC AUX	0.00	401.25	
DOM HOT WTR	0.00	0.00	
AUX SOLAR	0.00	0.00	
LIGHTS	0.00	923.33	
VERT TRANS	0.00	0.00	
MISC EQUIP	0.00	16.26	
TOTAL	3,436.05	1,351.27	

TOTAL SITE ENERGY 4787.33 MBTU 59.6 KBTU/SQFT-YR GROSS-AREA 59.6 KBTU/SQFT-YR NET-AREA  
 TOTAL SOURCE ENERGY 7493.96 MBTU 93.3 KBTU/SQFT-YR GROSS-AREA 93.3 KBTU/SQFT-YR NET-AREA

PERCENT OF HOURS ANY SYSTEM ZONE OUTSIDE OF THROTTLING RANGE = 30.0  
 PERCENT OF HOURS ANY PLANT LOAD NOT SATISFIED = 0.0

NOTE ELECTRICITY AND/OR FUEL USED TO GENERATE ELECTRICITY IS APPORTIONED BASED  
 ON THE YEARLY DEMAND. ALL OTHER ENERGY TYPES ARE APPORTIONED HOURLY.



MO	UTILITY-	STEAM	ELECTRICITY
	TOTAL (MBTU)	631.068	95.450
JAN	PEAK (KBTU)	2899.590	384.890
	DY/HR	5/12	31/16
	TOTAL (MBTU)	493.213	89.644
FEB	PEAK (KBTU)	2637.656	384.890
	DY/HR	17/ 5	28/16
	TOTAL (MBTU)	521.738	103.090
MAR	PEAK (KBTU)	2767.788	384.890
	DY/HR	9/ 5	31/16
	TOTAL (MBTU)	267.842	94.126
APR	PEAK (KBTU)	2469.982	384.890
	DY/HR	1/ 5	29/16
	TOTAL (MBTU)	153.686	98.608
MAY	PEAK (KBTU)	2332.617	384.890
	DY/HR	2/ 5	31/16
	TOTAL (MBTU)	149.118	157.258
JUN	PEAK (KBTU)	1987.293	657.933
	DY/HR	8/ 6	28/16
	TOTAL (MBTU)	41.188	153.128
JUL	PEAK (KBTU)	1712.098	698.670
	DY/HR	25/ 8	18/16
	TOTAL (MBTU)	110.258	166.125
AUG	PEAK (KBTU)	1819.471	687.916
	DY/HR	22/ 8	9/16
	TOTAL (MBTU)	66.720	102.494
SEP	PEAK (KBTU)	1807.465	696.600
	DY/HR	19/ 5	1/16
	TOTAL (MBTU)	188.040	94.126
OCT	PEAK (KBTU)	2258.416	384.890
	DY/HR	25/ 5	31/16
	TOTAL (MBTU)	329.548	98.608
NOV	PEAK (KBTU)	2468.730	384.890
	DY/HR	29/ 5	30/16
	TOTAL (MBTU)	483.634	98.628
DEC	PEAK (KBTU)	2642.987	384.890
	DY/HR	23/ 5	30/16
	ONE YEAR	3436.051	1351.283
	USE/PEAK	2899.590	698.670

**COMPUTER SIMULATIONS**  
**BUILDING 10000**

**RUN 2 - ECONOMIZER**

## LDL PROCESSOR INPUT DATA

3/26/1995 12:43:53 LDL RUN 1

```
* 3 *
* 4 *
* 5 *
* 6 *          $-----$
* 7 *          $EZ - DOE LOADS INPUT $
* 8 *          $-----$
* 9 *
* 10 *          $ GENERAL PROJECT DATA
* 11 * TITLE LINE-1 * EMC ENGINEERS INC. *
* 12 * LINE-2 *EZDOE - ELITE SOFTWARE DEVELOPMENT INC*
* 13 * LINE-3 * DENVER, CO 80227 *
* 14 *
* 15 * LINE-4 *DIV CMD/CNTL BLDG *
* 16 * LINE-5 *MODEL WITH SET BACK & ECONOMIZER * ..
* 17 *
* 18 * ABORT ERRORS ..
* 19 * DIAGNOSTIC WARNINGS ..
* 20 * LOADS-REPORT SUMMARY=(LS-C,LS-D) ..
* 21 * BUILDING-LOCATION GROSS-AREA = 80294
* 22 * X-REF = 0.0
* 23 * Y-REF = 0.0 ..
* 24 * RUN-PERIOD JAN 1 1994 THRU DEC 31 1994 ..
* 25 *
* 26 *
* 27 *          $ SCHEDULES
* 28 *
* 29 * FULL_ON_D =DAY-SCHEDULE (1,24) (1.) ..
* 30 *
* 31 * FULL_OFF_D =DAY-SCHEDULE (1,24) (0.) ..
* 32 *
* 33 * PEOPLE_D =DAY-SCHEDULE (1,5) (0.)
* 34 * (6,10) (1.)
* 35 * (11,12) (0.8,0.4)
* 36 * (13,14) (0.8)
* 37 * (15,16) (1.)
* 38 * (17,24) (0.) ..
* 39 *
* 40 * LIGHT_ON_D =DAY-SCHEDULE (1,3) (0.)
* 41 * (4,5) (0.1)
* 42 * (6) (0.2)
* 43 * (7,9) (0.9)
* 44 * (10,11) (1.)
* 45 * (12,13) (0.8)
* 46 * (14,15) (0.9)
* 47 * (16,20) (1.,0.8,0.7,0.4,0.2)
* 48 * (21,24) (0.) ..
* 49 *
* 50 *
* 51 * FULL_ON_W =WEEK-SCHEDULE (ALL) FULL_ON_D ..
* 52 *
* 53 * FULL_OFF_W =WEEK-SCHEDULE (ALL) FULL_OFF_D ..
* 54 *
* 55 * PEOPLE_W =WEEK-SCHEDULE (WD) PEOPLE_D
* 56 * (SAT) FULL_OFF_D
* 57 * (SUN) FULL_OFF_D
* 58 * (HOL) PEOPLE_D ..
* 59 *
* 60 * LIGHT_ON_W =WEEK-SCHEDULE (WD) LIGHT_ON_D
* 61 * (SAT) FULL_OFF_D
* 62 * (SUN) FULL_OFF_D
* 63 * (HOL) LIGHT_ON_D ..
* 64 *
* 65 *
* 66 * FULL_ON =SCHEDULE THRU DEC 31 FULL_ON_W ..
* 67 *
* 68 * FULL_OFF =SCHEDULE THRU DEC 31 FULL_OFF_W ..
* 69 *
* 70 * OCCUPANCY =SCHEDULE THRU DEC 31 PEOPLE_W ..
* 71 *
* 72 * LIGHT_SCHD =SCHEDULE THRU DEC 31 LIGHT_ON_W ..
* 73 *
* 74 *
* 75 *
* 76 *          $ CONSTRUCTION TYPES
* 77 *
* 78 *
* 79 *
* 80 *
* 81 * $ BASEMENT FLOOR & WALLS
* 82 * FLOORCON =CONSTRUCTION U-VALUE = 0.100 ..
* 83 * ROOF_CON =CONSTRUCTION U-VALUE = 0.050 ..
* 84 *
* 85 * $ EXTERIOR WALL
* 86 * WALL_CON =CONSTRUCTION U-VALUE = 0.200 ..
* 87 * DOORCON =CONSTRUCTION U-VALUE = 1.000 ..
* 88 * AIRWALL =CONSTRUCTION U-VALUE = 20.000 ..
* 89 *
* 90 * G_TYPE1 =GLASS-TYPE GLASS-TYPE-CODE = 1
* 91 * PANES = 1
* 92 * GLASS-CONDUCTANCE = 1.130 ..
* 93 *
* 94 *
* 95 *
* 96 *
* 97 *          $ SPACE DESCRIPTION
* 98 *
* 99 * BASEMENT =SPACE AREA = 21765.0 VOLUME = 195885.0
* 100 * AZIMUTH = 315 ZONE-TYPE = CONDITIONED
* 101 * PEOPLE-SCHEDULE = OCCUPANCY NUMBER-OF-PEOPLE = 125.0
* 102 * PEOPLE-HEAT-GAIN = 640.0
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SDL PROCESSOR INPUT DATA

3/26/1995 12:43:53 SDL RUN 1

```

* 248 *
* 249 *
* 250 *
* 251 *      $-----$
* 252 *      $ E Z - D O E   S Y S T E M S   I N P U T $
* 253 *      $-----$
* 254 *
* 255 *      $ GENERAL PROJECT DATA
* 256 *
* 257 *      TITLE   LINE-1 *      EMC      ENGINEERS      INC.      *
* 258 *      LINE-2 *EZDOE - ELITE SOFTWARE DEVELOPMENT INC*
* 259 *      LINE-3 *      DENVER,      CO      80227      *
* 260 *
* 261 *      LINE-4 *DIV CMD/CNTL BLDG      *
* 262 *      LINE-5 *MODEL WITH SET BACK & ECONOMIZER      * ..
* 263 *      ABORT      ERRORS      ..
* 264 *      DIAGNOSTIC      WARNINGS      ..
* 265 *      SYSTEMS-REPORT      SUMMARY=(SS-A,SS-B,SS-C,SS-F,SS-K,SS-O)      ..
* 266 *
* 267 *      $ SCHEDULES
* 268 *      FULL_ON_D   =DAY-SCHEDULE   (1,24) (1.) ..
* 269 *      FULL_OFF_D  =DAY-SCHEDULE   (1,24) (0.) ..
* 270 *      HEAT_68_D   =DAY-SCHEDULE   (1,24) (73.) ..
* 271 *      COOL_75_D   =DAY-SCHEDULE   (1,24) (75.) ..
* 272 *      FAN_WSB_D   =DAY-SCHEDULE   (1,4) (0.) ..
* 273 *      HT68_WSB_D  =DAY-SCHEDULE   (5,16) (1.) ..
* 274 *      CL75_WSB_D   =DAY-SCHEDULE   (17,24) (50.) ..
* 275 *      HEAT_50_D   =DAY-SCHEDULE   (1,4) (50.) ..
* 276 *      CL75_WSB_D  =DAY-SCHEDULE   (5,16) (73.) ..
* 277 *      HEAT_50_D   =DAY-SCHEDULE   (17,24) (50.) ..
* 278 *      CL75_WSB_D  =DAY-SCHEDULE   (1,24) (50.) ..
* 279 *      COOL_85_D   =DAY-SCHEDULE   (1,4) (85.) ..
* 280 *      HT68_WSB_D   =DAY-SCHEDULE   (5,16) (75.) ..
* 281 *      CL75_WSB_D   =DAY-SCHEDULE   (17,24) (85.) ..
* 282 *      FULL_ON_W   =WEEK-SCHEDULE   (ALL) FULL_ON_D ..
* 283 *      FULL_OFF_W   =WEEK-SCHEDULE   (ALL) FULL_OFF_D ..
* 284 *      HEAT_68_W   =WEEK-SCHEDULE   (ALL) HEAT_68_D ..
* 285 *      COOL_75_W   =WEEK-SCHEDULE   (ALL) COOL_75_D ..
* 286 *      FAN_WSB_W   =WEEK-SCHEDULE   (WD) FAN_WSB_D ..
* 287 *      HT68_WSB_W   =WEEK-SCHEDULE   (SAT) FULL_OFF_D ..
* 288 *      CL75_WSB_W   =WEEK-SCHEDULE   (SUN) FULL_OFF_D ..
* 289 *      HEAT_50_D   =WEEK-SCHEDULE   (HOL) FAN_WSB_D ..
* 290 *      HT68_WSB_D   =WEEK-SCHEDULE   (WD) HT68_WSB_D ..
* 291 *      CL75_WSB_D   =WEEK-SCHEDULE   (SAT) HEAT_50_D ..
* 292 *      FULL_ON_W   =WEEK-SCHEDULE   (SUN) HEAT_50_D ..
* 293 *      FULL_OFF_W   =WEEK-SCHEDULE   (HOL) HT68_WSB_D ..
* 294 *      HEAT_68_W   =WEEK-SCHEDULE   (WD) CL75_WSB_D ..
* 295 *      COOL_75_W   =WEEK-SCHEDULE   (SAT) COOL_85_D ..
* 296 *      CL75_WSB_D   =WEEK-SCHEDULE   (SUN) COOL_85_D ..
* 297 *      HT68_WSB_D   =WEEK-SCHEDULE   (HOL) CL75_WSB_D ..
* 298 *
* 299 *      $ SUMMER VENTILATION FANS
* 300 *      SF_ON        =SCHEDULE THRU DEC 31 FULL_ON_W ..
* 301 *      THRU SEP 15 FULL_ON_W ..
* 302 *      THRU DEC 31 FULL_OFF_W ..
* 303 *
* 304 *      $ SUMMER VENTILATION W SB
* 305 *      SF_WSB       =SCHEDULE THRU MAY 31 FULL_OFF_W ..
* 306 *      THRU SEP 1 FAN_WSB_W ..
* 307 *      THRU DEC 31 FULL_OFF_W ..
* 308 *
* 309 *      $ AHU FAN SET BACK SCHED
* 310 *      FAN_WSB      =SCHEDULE THRU DEC 31 FAN_WSB_W ..
* 311 *
* 312 *      $ HEATING SCHED W SET BACK
* 313 *      HT68_WSB     =SCHEDULE THRU DEC 31 HT68_WSB_W ..
* 314 *
* 315 *      $ COOLING SCHED W SET BACK
* 316 *      CL75_WSB     =SCHEDULE THRU DEC 31 CL75_WSB_W ..
* 317 *
* 318 *
* 319 *
* 320 *
* 321 *
* 322 *
* 323 *
* 324 *
* 325 *
* 326 *
* 327 *
* 328 *
* 329 *
* 330 *
* 331 *
* 332 *
* 333 *
* 334 *
* 335 *
* 336 *
* 337 *
* 338 *
* 339 *      $ ZONE DESCRIPTION
* 340 *
* 341 *      BASEMENT    =ZONE    DESIGN-HEAT-T = 68.0 DESIGN-COOL-T = 75.0
* 342 *      HEAT-TEMP-SCH = HT68_WSB COOL-TEMP-SCH = CL75_WSB
* 343 *      ZONE-TYPE = CONDITIONED
* 344 *      THERMOSTAT-TYPE = PROPORTIONAL
* 345 *      BASEBOARD-CTRL = THERMOSTATIC
* 346 *      BASEBOARD-RATING = -63200. ASSIGNED-CFM = 14850.
* 347 *      OUTSIDE-AIR-CFM = 5750. SIZING-OPTION = FROM-LOADS
* 348 *      HEATING-CAPACITY = -185550.0 ..

```

```

* 348 * 1ST_FLOOR =ZONE DESIGN-HEAT-T = 68.0 DESIGN-COOL-T = 75.0
* 349 * HEAT-TEMP-SCH = HT68 W SB ZONE-TYPE = CONDITIONED
* 350 * THERMOSTAT-TYPE = PROPORTIONAL
* 351 * BASEBOARD-CTRL = THERMOSTATIC
* 352 * BASEBOARD-RATING = -327500. ASSIGNED-CFM = 4160.
* 353 * OUTSIDE-AIR-CFM = 4160. SIZING-OPTION = FROM-LOADS ..
* 354 *
* 355 * 2ND_FLOOR =ZONE DESIGN-HEAT-T = 68.0 DESIGN-COOL-T = 75.0
* 356 * HEAT-TEMP-SCH = HT68 W SB ZONE-TYPE = CONDITIONED
* 357 * THERMOSTAT-TYPE = PROPORTIONAL
* 358 * BASEBOARD-CTRL = THERMOSTATIC
* 359 * BASEBOARD-RATING = -365100. ASSIGNED-CFM = 4485.
* 360 * OUTSIDE-AIR-CFM = 4485. SIZING-OPTION = FROM-LOADS ..
* 361 *
* 362 * 1ST_FLR_B =ZONE DESIGN-HEAT-T = 68.0 DESIGN-COOL-T = 75.0
* 363 * ZONE-TYPE = CONDITIONED
* 364 * THERMOSTAT-TYPE = PROPORTIONAL
* 365 * BASEBOARD-CTRL = THERMOSTATIC ASSIGNED-CFM = 46795.
* 366 * OUTSIDE-AIR-CFM = 46795. SIZING-OPTION = FROM-LOADS
* 367 * EXHAUST-CFM = 2908.0 ..
* 368 *
* 369 * 2ND_FLR_B =ZONE DESIGN-HEAT-T = 68.0 DESIGN-COOL-T = 75.0
* 370 * ZONE-TYPE = CONDITIONED
* 371 * THERMOSTAT-TYPE = PROPORTIONAL
* 372 * BASEBOARD-CTRL = THERMOSTATIC ASSIGNED-CFM = 52996.
* 373 * OUTSIDE-AIR-CFM = 52996. SIZING-OPTION = FROM-LOADS
* 374 * EXHAUST-CFM = 4056.0 ..
* 375 *
* 376 * BASEMENT_B =ZONE DESIGN-HEAT-T = 68.0 DESIGN-COOL-T = 75.0
* 377 * ZONE-TYPE = CONDITIONED
* 378 * THERMOSTAT-TYPE = PROPORTIONAL
* 379 * BASEBOARD-CTRL = THERMOSTATIC ASSIGNED-CFM = 6950.
* 380 * OUTSIDE-AIR-CFM = 6950. SIZING-OPTION = FROM-LOADS ..
* 381 *
* 382 *
* 383 * $ SYSTEM DESCRIPTION
* 384 *
* 385 * AHU_1-14 =SYSTEM SYSTEM-TYPE = SZRH
* 386 * MAX-SUPPLY-T = 120.0 MIN-SUPPLY-T = 50.0
* 387 * PREHEAT-T = 68.0 MIN-HUMIDITY = 30.0
* 388 * ECONO-LIMIT-T = 65.0 ECONO-LOW-LIMIT = 55.0
* 389 * SUPPLY-CFM = 14850. RETURN-CFM = 9100.
* 390 * RATED-CFM = 14850. MIN-OUTSIDE-AIR = 0.39
* 391 * FAN-SCHEDULE = FAN WSB SUPPLY-DELTA-T = 2.4
* 392 * SUPPLY-KW = 0.00078
* 393 * MOTOR-PLACEMENT = OUTSIDE-AIRFLOW
* 394 * NIGHT-CYCLE-CTRL = CYCLE-ON-ANY NIGHT-VENT-DT = 0.0
* 395 * MIN-CFM-RATIO = 1.0 REHEAT-DELTA-T = 4.
* 396 * COOLING-CAPACITY = 484089. COOL-SH-CAP = 373406.
* 397 * HEATING-CAPACITY = -403140. FURNACE-AUX = 0.
* 398 * PREHEAT-SOURCE = HOT-WATER
* 399 * ZONE-NAMES = (BASEMENT) ..
* 400 *
* 401 * AHU_15&16 =SYSTEM SYSTEM-TYPE = HVSYS
* 402 * MAX-SUPPLY-T = 120.0 MIN-HUMIDITY = 30.0
* 403 * ECONO-LIMIT-T = 65.0 ECONO-LOW-LIMIT = 55.0
* 404 * HEAT-CONTROL = COLDEST SUPPLY-CFM = 4160.
* 405 * RATED-CFM = 4160. MIN-OUTSIDE-AIR = 1.0
* 406 * FAN-SCHEDULE = FAN WSB SUPPLY-DELTA-T = 2.4
* 407 * SUPPLY-KW = 0.00078
* 408 * MOTOR-PLACEMENT = OUTSIDE-AIRFLOW
* 409 * NIGHT-CYCLE-CTRL = CYCLE-ON-ANY NIGHT-VENT-DT = 0.0
* 410 * HEATING-CAPACITY = -336960. FURNACE-AUX = 0.
* 411 * ZONE-NAMES = (1ST_FLOOR) ..
* 412 *
* 413 * AHU_17&18 =SYSTEM SYSTEM-TYPE = HVSYS
* 414 * MAX-SUPPLY-T = 120.0 MIN-HUMIDITY = 30.0
* 415 * ECONO-LIMIT-T = 65.0 ECONO-LOW-LIMIT = 55.0
* 416 * HEAT-CONTROL = COLDEST SUPPLY-CFM = 4485.
* 417 * RATED-CFM = 4485. MIN-OUTSIDE-AIR = 1.0
* 418 * FAN-SCHEDULE = FAN WSB SUPPLY-DELTA-T = 2.4
* 419 * SUPPLY-KW = 0.00078 NIGHT-CYCLE-CTRL = CYCLE-ON-ANY
* 420 * NIGHT-VENT-DT = 0.0 HEATING-CAPACITY = -363680.
* 421 * FURNACE-AUX = 0.
* 422 * ZONE-NAMES = (2ND_FLOOR) ..
* 423 *
* 424 * SF_1&2 =SYSTEM SYSTEM-TYPE = HVSYS
* 425 * MAX-SUPPLY-T = 120.0 HEATING-SCHEDULE = FULL_OFF
* 426 * MIN-HUMIDITY = 30.0 ECONO-LIMIT-T = 65.0
* 427 * ECONO-LOW-LIMIT = 55.0 SUPPLY-CFM = 46795.
* 428 * RATED-CFM = 46795. MIN-OUTSIDE-AIR = 1.0
* 429 * FAN-SCHEDULE = SF WSB SUPPLY-DELTA-T = 2.4
* 430 * SUPPLY-KW = 0.0006
* 431 * MOTOR-PLACEMENT = OUTSIDE-AIRFLOW
* 432 * NIGHT-CYCLE-CTRL = CYCLE-ON-ANY NIGHT-VENT-DT = 0.0
* 433 * FURNACE-AUX = 0.
* 434 * ZONE-NAMES = (1ST_FLR_B) ..
* 435 *
* 436 * SF_3&4 =SYSTEM SYSTEM-TYPE = HVSYS
* 437 * MAX-SUPPLY-T = 120.0 HEATING-SCHEDULE = FULL_OFF
* 438 * MIN-HUMIDITY = 30.0 ECONO-LIMIT-T = 65.0
* 439 * ECONO-LOW-LIMIT = 55.0 SUPPLY-CFM = 52996.
* 440 * RATED-CFM = 52996. MIN-OUTSIDE-AIR = 1.0
* 441 * FAN-SCHEDULE = SF WSB SUPPLY-DELTA-T = 2.4
* 442 * SUPPLY-KW = 0.0006
* 443 * MOTOR-PLACEMENT = OUTSIDE-AIRFLOW
* 444 * NIGHT-CYCLE-CTRL = CYCLE-ON-ANY NIGHT-VENT-DT = 0.0
* 445 * FURNACE-AUX = 0.
* 446 * ZONE-NAMES = (2ND_FLR_B) ..
* 447 *
* 448 * SF_31-33 =SYSTEM SYSTEM-TYPE = HVSYS
* 449 * MAX-SUPPLY-T = 120.0 HEATING-SCHEDULE = FULL_OFF
* 450 * MIN-HUMIDITY = 30.0 ECONO-LIMIT-T = 65.0
* 451 * ECONO-LOW-LIMIT = 55.0 SUPPLY-CFM = 6950.
* 452 * RATED-CFM = 6950. MIN-OUTSIDE-AIR = 1.0
* 453 * FAN-SCHEDULE = SF WSB SUPPLY-DELTA-T = 2.4
* 454 * SUPPLY-KW = 0.0006
* 455 * MOTOR-PLACEMENT = OUTSIDE-AIRFLOW

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* 211 *
* 212 *
* 213 * 1ST_FLR_B =SPACE AREA = 5000.0 VOLUME = 45000.0
* 214 * AZIMUTH = 315 ZONE-TYPE = CONDITIONED
* 215 * AREA/PERSON = 100.0 EQUIP-SCHEDULE = OCCUPANCY
* 216 * EQUIPMENT-KW = 0.75 EQUIP-SENSIBLE = 0.0
* 217 * FLOOR-WEIGHT = 0.1 INF-METHOD = AIR-CHANGE
* 218 * AIR-CHANGES/HR = 0.4 INF-SCHEDULE = FULL_ON ..
* 219 *
* 220 * I-W HEIGHT = 9.0 WIDTH = 1000.0 CONS = AIRWALL
* 221 * NEXT-TO = 1ST_FLOOR ..
* 222 *
* 223 *
* 224 * 2ND_FLR_B =SPACE AREA = 5000.0 VOLUME = 45000.0
* 225 * AZIMUTH = 315 ZONE-TYPE = CONDITIONED
* 226 * AREA/PERSON = 100.0 EQUIP-SCHEDULE = OCCUPANCY
* 227 * EQUIPMENT-KW = 1.12 EQUIP-SENSIBLE = 0.0
* 228 * FLOOR-WEIGHT = 0.1 INF-METHOD = AIR-CHANGE
* 229 * AIR-CHANGES/HR = 0.4 INF-SCHEDULE = FULL_ON ..
* 230 *
* 231 * I-W HEIGHT = 9.0 WIDTH = 1000.0 CONS = AIRWALL
* 232 * NEXT-TO = 2ND_FLOOR ..
* 233 *
* 234 *
* 235 * BASEMENT_B =SPACE AREA = 5000.0 VOLUME = 45000.0
* 236 * ZONE-TYPE = CONDITIONED AREA/PERSON = 100.0
* 237 * INF-METHOD = AIR-CHANGE AIR-CHANGES/HR = 0.33
* 238 * INF-SCHEDULE = FULL_ON ..
* 239 *
* 240 * I-W HEIGHT = 9.0 WIDTH = 1000.0 CONS = AIRWALL
* 241 * NEXT-TO = BASEMENT ..
* 242 *
* 243 *
* 244 * END ..
* 245 * COMPUTE LOADS ..
* 246 *
* 247 * INPUT SYSTEMS ..

```

```

* 103 *      LIGHTING-TYPE = REC-FLUOR-RV  LIGHTING-KW = 20.1
* 104 *      LIGHTING-SCHEDULE = LIGHT_SCHD
* 105 *      INF-METHOD = AIR-CHANGE  AIR-CHANGES/HR = 0.33
* 106 *      INF-SCHEDULE = FULL_ON  ..
* 107 *
* 108 *      U-W      HEIGHT = 9.0  WIDTH = 139.0  CONS = FLOORCON
* 109 *      AZIMUTH = 90  ..
* 110 *
* 111 *      U-W      HEIGHT = 9.0  WIDTH = 240.0  CONS = FLOORCON
* 112 *      AZIMUTH = 180  ..
* 113 *
* 114 *      U-W      HEIGHT = 9.0  WIDTH = 139.0  CONS = FLOORCON
* 115 *      AZIMUTH = 270  ..
* 116 *
* 117 *      U-W      HEIGHT = 9.0  WIDTH = 240.0  CONS = FLOORCON ..
* 118 *
* 119 *      U-W      HEIGHT = 112.0  WIDTH = 240.0  CONS = FLOORCON ..
* 120 *
* 121 *
* 122 * 1ST_FLOOR =SPACE  AREA = 21765.0  VOLUME = 195885.0
* 123 *      AZIMUTH = 315  ZONE-TYPE = CONDITIONED
* 124 *      PEOPLE-SCHEDULE = OCCUPANCY  NUMBER-OF-PEOPLE = 125.0
* 125 *      PEOPLE-HEAT-GAIN = 640.0
* 126 *      LIGHTING-TYPE = REC-FLUOR-RV  LIGHTING-KW = 32.7
* 127 *      LIGHTING-SCHEDULE = LIGHT_SCHD
* 128 *      INF-METHOD = AIR-CHANGE  AIR-CHANGES/HR = 0.4
* 129 *      INF-SCHEDULE = FULL_ON  ..
* 130 *
* 131 *      E-W      HEIGHT = 9.0  WIDTH = 139.0  CONS = WALL_CON
* 132 *      AZIMUTH = 90  ..
* 133 *
* 134 *      WINDOW HEIGHT = 6.0  WIDTH = 4.0  G-T = G_TYPE1
* 135 *      MULTIPLIER = 8.0  ..
* 136 *
* 137 *      DOOR  HEIGHT = 7.5  WIDTH = 3.0  CONS = DOORCON
* 138 *      MULTIPLIER = 2.0  ..
* 139 *
* 140 *      E-W      HEIGHT = 9.0  WIDTH = 240.0  CONS = WALL_CON
* 141 *      AZIMUTH = 180  ..
* 142 *
* 143 *      WINDOW HEIGHT = 6.0  WIDTH = 4.0  G-T = G_TYPE1
* 144 *      MULTIPLIER = 22.0  ..
* 145 *
* 146 *      DOOR  HEIGHT = 7.5  WIDTH = 3.0  CONS = DOORCON
* 147 *      MULTIPLIER = 2.0  ..
* 148 *
* 149 *      E-W      HEIGHT = 9.0  WIDTH = 139.0  CONS = WALL_CON
* 150 *      AZIMUTH = 270  ..
* 151 *
* 152 *      WINDOW HEIGHT = 6.0  WIDTH = 4.0  G-T = G_TYPE1
* 153 *      MULTIPLIER = 8.0  ..
* 154 *
* 155 *      DOOR  HEIGHT = 7.5  WIDTH = 3.0  CONS = DOORCON
* 156 *      MULTIPLIER = 2.0  ..
* 157 *
* 158 *      E-W      HEIGHT = 9.0  WIDTH = 240.0  CONS = WALL_CON
* 159 *      AZIMUTH = 0  ..
* 160 *
* 161 *      WINDOW HEIGHT = 6.0  WIDTH = 4.0  G-T = G_TYPE1
* 162 *      MULTIPLIER = 18.0  ..
* 163 *
* 164 *      DOOR  HEIGHT = 7.5  WIDTH = 3.0  CONS = DOORCON
* 165 *      MULTIPLIER = 2.0  ..
* 166 *
* 167 *
* 168 * 2ND_FLOOR =SPACE  AREA = 21765.0  VOLUME = 195885.0
* 169 *      AZIMUTH = 315  ZONE-TYPE = CONDITIONED
* 170 *      PEOPLE-SCHEDULE = OCCUPANCY  NUMBER-OF-PEOPLE = 125.0
* 171 *      PEOPLE-HEAT-GAIN = 640.0
* 172 *      LIGHTING-TYPE = REC-FLUOR-RV  LIGHTING-KW = 36.9
* 173 *      LIGHTING-SCHEDULE = LIGHT_SCHD
* 174 *      INF-METHOD = AIR-CHANGE  AIR-CHANGES/HR = 0.4
* 175 *      INF-SCHEDULE = FULL_ON  ..
* 176 *
* 177 *      E-W      HEIGHT = 9.0  WIDTH = 139.0  CONS = WALL_CON
* 178 *      AZIMUTH = 90  ..
* 179 *
* 180 *      WINDOW HEIGHT = 4.0  WIDTH = 4.0  G-T = G_TYPE1
* 181 *      MULTIPLIER = 8.0  ..
* 182 *
* 183 *      WINDOW HEIGHT = 8.0  WIDTH = 8.3  G-T = G_TYPE1 ..
* 184 *
* 185 *      E-W      HEIGHT = 9.0  WIDTH = 240.0  CONS = WALL_CON
* 186 *      AZIMUTH = 180  ..
* 187 *
* 188 *      WINDOW HEIGHT = 4.0  WIDTH = 4.0  G-T = G_TYPE1
* 189 *      MULTIPLIER = 22.0  ..
* 190 *
* 191 *      WINDOW HEIGHT = 8.0  WIDTH = 8.3  G-T = G_TYPE1 ..
* 192 *
* 193 *      E-W      HEIGHT = 9.0  WIDTH = 139.0  CONS = WALL_CON
* 194 *      AZIMUTH = 270  ..
* 195 *
* 196 *      WINDOW HEIGHT = 4.0  WIDTH = 4.0  G-T = G_TYPE1
* 197 *      MULTIPLIER = 8.0  ..
* 198 *
* 199 *      WINDOW HEIGHT = 8.0  WIDTH = 8.3  G-T = G_TYPE1 ..
* 200 *
* 201 *      E-W      HEIGHT = 9.0  WIDTH = 240.0  CONS = WALL_CON
* 202 *      AZIMUTH = 0  ..
* 203 *
* 204 *      WINDOW HEIGHT = 4.0  WIDTH = 4.0  G-T = G_TYPE1
* 205 *      MULTIPLIER = 18.0  ..
* 206 *
* 207 *      WINDOW HEIGHT = 8.0  WIDTH = 8.3  G-T = G_TYPE1 ..
* 208 *
* 209 *      ROOF  HEIGHT = 112.0  WIDTH = 240.0  CONS = ROOF_CON
* 210 *      TILT = 0  ..

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```
* 456 *          NIGHT-CYCLE-CTRL = CYCLE-ON-ANY NIGHT-VENT-DT = 0.0
* 457 *          FURNACE-AUX = 0.
* 458 *          ZONE-NAMES = (BASEMENT_B) ..
* 459 *
* 460 * END ..
* 461 * COMPUTE SYSTEMS ..
* 462 *
* 463 * INPUT PLANT ..
```



P D L P R O C E S S O R I N P U T D A T A

3/26/1995 12:43:53 PDL RUN 1

```

* 464 *
* 465 *
* 466 *           $-----$
* 467 *           $ E Z - D O E   P L A N T S   I N P U T $
* 468 *           $-----$
* 469 *
* 470 *           $ GENERAL PROJECT DATA
* 471 *
* 472 * TITLE LINE-1 *      EMC      ENGINEERS      INC.      *
* 473 * LINE-2 *EZDOE - ELITE SOFTWARE DEVELOPMENT INC*
* 474 * LINE-3 *      DENVER,      CO      80227      *
* 475 *
* 476 * LINE-4 *DIV CMD/CNTL BLDG      *
* 477 * LINE-5 *MODEL WITH SET BACK & ECONOMIZER      * ..
* 478 *
* 479 * ABORT      ERRORS ..
* 480 * DIAGNOSTIC      WARNINGS ..
* 481 * PLANT-REPORT      SUMMARY=(PS-A,PS-B,BEPS)
* 482 * ..
* 483 *
* 484 *           $ SCHEDULES
* 485 *
* 486 * FULL_ON_D =DAY-SCHEDULE (1,24) (1.) ..
* 487 *
* 488 *
* 489 * FULL_ON_W =WEEK-SCHEDULE (ALL) FULL_ON_D ..
* 490 *
* 491 *
* 492 * FULL_ON =SCHEDULE THRU DEC 31 FULL_ON_W ..
* 493 *
* 494 *
* 495 *
* 496 *           $ EQUIPMENT DESCRIPTION
* 497 *
* 498 * HE1&2      =PLANT-EQUIPMENT TYPE = HTANK-STORAGE
* 499 *           SIZE = 2.5 ..
* 500 *
* 501 * CH1&2      =PLANT-EQUIPMENT TYPE = OPEN-REC-CHLR
* 502 *           SIZE = 0.4 INSTALLED-NUMBER = 2
* 503 *           MAX-NUMBER-AVAIL = 2 ..
* 504 *
* 505 * PLANT-PARAMETERS      OPEN-REC-COND-TYPE = AIR CHILL-WTR-T = 45.
* 506 *           CCIRC-HEAD = 45.0 HCIRC-HEAD = 55.0 ..
* 507 *
* 508 *
* 509 * ENERGY-RESOURCE      RESOURCE = STEAM SOURCE-SITE-BFF = 1.000 ..
* 510 * ENERGY-RESOURCE      RESOURCE = ELECTRICITY ..
* 511 *
* 512 * ENERGY-STORAGE      HEAT-STORE-RATE = 2.48 HEAT-SUPPLY-RATE = 2.48
* 513 *           HTANK-BASE-T = 212.0 HEAT-STORE-SCH = FULL_ON ..
* 514 *
* 515 * HEAT-RECOVERY
* 516 *           SUPPLY-1 = (HTANK-STORAGE)
* 517 *           DEMAND-1 = (SPACE-HEAT,PROCESS-HEAT) ..
* 518 *
* 519 *
* 520 *
* 521 * END ..
* 522 * COMPUTE PLANT ..
* 523 * STOP ..

```

ENERGY TYPE IN SITE MBTU-	STEAM	ELECTRICITY	RECOVERED
CATEGORY OF USE			
SPACE HEAT	3,435.97	0.00	
SPACE COOL	0.00	10.42	
HVAC AUX	0.00	401.24	
DOM HOT WTR	0.00	0.00	
AUX SOLAR	0.00	0.00	
LIGHTS	0.00	923.33	
VERT TRANS	0.00	0.00	
MISC EQUIP	0.00	16.26	
	-----	-----	
TOTAL	3,435.97	1,351.25	

TOTAL SITE ENERGY 4787.23 MBTU 59.6 KBTU/SQFT-YR GROSS-AREA 59.6 KBTU/SQFT-YR NET-AREA  
 TOTAL SOURCE ENERGY 7493.81 MBTU 93.3 KBTU/SQFT-YR GROSS-AREA 93.3 KBTU/SQFT-YR NET-AREA

PERCENT OF HOURS ANY SYSTEM ZONE OUTSIDE OF THROTTLING RANGE = 30.0  
 PERCENT OF HOURS ANY PLANT LOAD NOT SATISFIED = 0.0

NOTE ELECTRICITY AND/OR FUEL USED TO GENERATE ELECTRICITY IS APPORTIONED BASED  
 ON THE YEARLY DEMAND. ALL OTHER ENERGY TYPES ARE APPORTIONED HOURLY.

MO	UTILITY-	STEAM	ELECTRICITY
	TOTAL (MBTU)	631.068	95.450
JAN	PEAK (KBTU)	2899.590	384.890
	DY/HR	5/12	31/16
	TOTAL (MBTU)	493.213	89.644
FEB	PEAK (KBTU)	2637.656	384.890
	DY/HR	17/ 5	28/16
	TOTAL (MBTU)	521.738	103.090
MAR	PEAK (KBTU)	2767.788	384.890
	DY/HR	9/ 5	31/16
	TOTAL (MBTU)	267.840	94.126
APR	PEAK (KBTU)	2469.982	384.890
	DY/HR	1/ 5	29/16
	TOTAL (MBTU)	153.676	98.608
MAY	PEAK (KBTU)	2332.617	384.890
	DY/HR	2/ 5	31/16
	TOTAL (MBTU)	149.098	157.251
JUN	PEAK (KBTU)	1987.830	657.927
	DY/HR	8/ 6	28/16
	TOTAL (MBTU)	41.167	153.123
JUL	PEAK (KBTU)	1712.101	698.664
	DY/HR	25/ 8	18/16
	TOTAL (MBTU)	110.238	166.121
AUG	PEAK (KBTU)	1819.478	687.904
	DY/HR	22/ 8	9/16
	TOTAL (MBTU)	66.711	102.487
SEP	PEAK (KBTU)	1807.469	696.543
	DY/HR	19/ 5	1/16
	TOTAL (MBTU)	188.038	94.126
OCT	PEAK (KBTU)	2258.421	384.890
	DY/HR	25/ 5	31/16
	TOTAL (MBTU)	329.548	98.608
NOV	PEAK (KBTU)	2468.730	384.890
	DY/HR	29/ 5	30/16
	TOTAL (MBTU)	483.633	98.628
DEC	PEAK (KBTU)	2642.987	384.890
	DY/HR	23/ 5	30/16
	ONE YEAR	3435.967	1351.261
	USE/PEAK	2899.590	698.664

**COMPUTER SIMULATIONS**  
BUILDING 10000

RUN 3 - DDC

LDL PROCESSOR INPUT DATA

3/26/1995 12:49:19 LDL RUN 1

```

* 3 *
* 4 *
* 5 *
* 6 *
* 7 *
* 8 *
* 9 *
* 10 *
* 11 * TITLE LINE-1 * EMC ENGINEERS INC. *
* 12 * LINE-2 *EZDOE - ELITE SOFTWARE DEVELOPMENT INC*
* 13 * LINE-3 * DENVER, CO 80227 *
* 14 *
* 15 * LINE-4 *DIV CMD/CNTL BLDG *
* 16 * LINE-5 *MODEL WITH SET BACK,ECONOMIZER, & DDC * ..
* 17 *
* 18 * ABORT ERRORS ..
* 19 * DIAGNOSTIC WARNINGS ..
* 20 * LOADS-REPORT SUMMARY=(LS-C,LS-D) ..
* 21 * BUILDING-LOCATION GROSS-AREA = 80294
* 22 * X-REF = 0.0
* 23 * Y-REF = 0.0 ..
* 24 * RUN-PERIOD JAN 1 1994 THRU DEC 31 1994 ..
* 25 *
* 26 *
* 27 * $ SCHEDULES
* 28 *
* 29 * FULL_ON_D =DAY-SCHEDULE (1,24) (1.) ..
* 30 *
* 31 * FULL_OFF_D =DAY-SCHEDULE (1,24) (0.) ..
* 32 *
* 33 * PEOPLE_D =DAY-SCHEDULE (1,5) (0.)
* 34 * (6,10) (1.)
* 35 * (11,12) (0.8,0.4)
* 36 * (13,14) (0.8)
* 37 * (15,16) (1.)
* 38 * (17,24) (0.) ..
* 39 *
* 40 * LIGHT_ON_D =DAY-SCHEDULE (1,3) (0.)
* 41 * (4,5) (0.1)
* 42 * (6) (0.2)
* 43 * (7,9) (0.9)
* 44 * (10,11) (1.)
* 45 * (12,13) (0.8)
* 46 * (14,15) (0.9)
* 47 * (16,20) (1.,0.8,0.7,0.4,0.2)
* 48 * (21,24) (0.) ..
* 49 *
* 50 *
* 51 * FULL_ON_W =WEEK-SCHEDULE (ALL) FULL_ON_D ..
* 52 *
* 53 * FULL_OFF_W =WEEK-SCHEDULE (ALL) FULL_OFF_D ..
* 54 *
* 55 * PEOPLE_W =WEEK-SCHEDULE (WD) PEOPLE_D
* 56 * (SAT) FULL_OFF_D
* 57 * (SUN) FULL_OFF_D
* 58 * (HOL) PEOPLE_D ..
* 59 *
* 60 * LIGHT_ON_W =WEEK-SCHEDULE (WD) LIGHT_ON_D
* 61 * (SAT) FULL_OFF_D
* 62 * (SUN) FULL_OFF_D
* 63 * (HOL) LIGHT_ON_D ..
* 64 *
* 65 *
* 66 * FULL_ON =SCHEDULE THRU DEC 31 FULL_ON_W ..
* 67 *
* 68 * FULL_OFF =SCHEDULE THRU DEC 31 FULL_OFF_W ..
* 69 *
* 70 * OCCUPANCY =SCHEDULE THRU DEC 31 PEOPLE_W ..
* 71 *
* 72 * LIGHT_SCHD =SCHEDULE THRU DEC 31 LIGHT_ON_W ..
* 73 *
* 74 *
* 75 *
* 76 * $ CONSTRUCTION TYPES
* 77 *
* 78 *
* 79 *
* 80 *
* 81 * $ BASEMENT FLOOR & WALLS
* 82 * FLOORCON =CONSTRUCTION U-VALUE = 0.100 ..
* 83 * ROOF_CON =CONSTRUCTION U-VALUE = 0.050 ..
* 84 *
* 85 * $ EXTERIOR WALL
* 86 * WALL_CON =CONSTRUCTION U-VALUE = 0.200 ..
* 87 * DOORCON =CONSTRUCTION U-VALUE = 1.000 ..
* 88 * AIRWALL =CONSTRUCTION U-VALUE = 20.000 ..
* 89 *
* 90 * G_TYPE1 =GLASS-TYPE GLASS-TYPE-CODE = 1
* 91 * PANES = 1
* 92 * GLASS-CONDUCTANCE = 1.130 ..
* 93 *
* 94 *
* 95 *
* 96 *
* 97 * $ SPACE DESCRIPTION
* 98 *
* 99 * BASEMENT =SPACE AREA = 21765.0 VOLUME = 195885.0
* 100 * AZIMUTH = 315 ZONE-TYPE = CONDITIONED
* 101 * PEOPLE-SCHEDULE = OCCUPANCY NUMBER-OF-PEOPLE = 125.0
* 102 * PEOPLE-HEAT-GAIN = 640.0

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```

* 103 *      LIGHTING-TYPE = REC-FLUOR-RV  LIGHTING-KW = 20.1
* 104 *      LIGHTING-SCHEDULE = LIGHT_SCHD
* 105 *      INF-METHOD = AIR-CHANGE  AIR-CHANGES/HR = 0.33
* 106 *      INF-SCHEDULE = FULL_ON  ..
* 107 *
* 108 *      U-W      HEIGHT = 9.0  WIDTH = 139.0  CONS = FLOORCON
* 109 *      AZIMUTH = 90  ..
* 110 *
* 111 *      U-W      HEIGHT = 9.0  WIDTH = 240.0  CONS = FLOORCON
* 112 *      AZIMUTH = 180  ..
* 113 *
* 114 *      U-W      HEIGHT = 9.0  WIDTH = 139.0  CONS = FLOORCON
* 115 *      AZIMUTH = 270  ..
* 116 *
* 117 *      U-W      HEIGHT = 9.0  WIDTH = 240.0  CONS = FLOORCON ..
* 118 *
* 119 *      U-W      HEIGHT = 112.0  WIDTH = 240.0  CONS = FLOORCON ..
* 120 *
* 121 *
* 122 * 1ST_FLOOR =SPACE  AREA = 21765.0  VOLUME = 195885.0
* 123 *      AZIMUTH = 315  ZONE-TYPE = CONDITIONED
* 124 *      PEOPLE-SCHEDULE = OCCUPANCY  NUMBER-OF-PEOPLE = 125.0
* 125 *      PEOPLE-HEAT-GAIN = 640.0
* 126 *      LIGHTING-TYPE = REC-FLUOR-RV  LIGHTING-KW = 32.7
* 127 *      LIGHTING-SCHEDULE = LIGHT_SCHD
* 128 *      INF-METHOD = AIR-CHANGE  AIR-CHANGES/HR = 0.4
* 129 *      INF-SCHEDULE = FULL_ON  ..
* 130 *
* 131 *      E-W      HEIGHT = 9.0  WIDTH = 139.0  CONS = WALL_CON
* 132 *      AZIMUTH = 90  ..
* 133 *
* 134 *      WINDOW HEIGHT = 6.0  WIDTH = 4.0  G-T = G_TYPE1
* 135 *      MULTIPLIER = 8.0  ..
* 136 *
* 137 *      DOOR      HEIGHT = 7.5  WIDTH = 3.0  CONS = DOORCON
* 138 *      MULTIPLIER = 2.0  ..
* 139 *
* 140 *      E-W      HEIGHT = 9.0  WIDTH = 240.0  CONS = WALL_CON
* 141 *      AZIMUTH = 180  ..
* 142 *
* 143 *      WINDOW HEIGHT = 6.0  WIDTH = 4.0  G-T = G_TYPE1
* 144 *      MULTIPLIER = 22.0  ..
* 145 *
* 146 *      DOOR      HEIGHT = 7.5  WIDTH = 3.0  CONS = DOORCON
* 147 *      MULTIPLIER = 2.0  ..
* 148 *
* 149 *      E-W      HEIGHT = 9.0  WIDTH = 139.0  CONS = WALL_CON
* 150 *      AZIMUTH = 270  ..
* 151 *
* 152 *      WINDOW HEIGHT = 6.0  WIDTH = 4.0  G-T = G_TYPE1
* 153 *      MULTIPLIER = 8.0  ..
* 154 *
* 155 *      DOOR      HEIGHT = 7.5  WIDTH = 3.0  CONS = DOORCON
* 156 *      MULTIPLIER = 2.0  ..
* 157 *
* 158 *      E-W      HEIGHT = 9.0  WIDTH = 240.0  CONS = WALL_CON
* 159 *      AZIMUTH = 0  ..
* 160 *
* 161 *      WINDOW HEIGHT = 6.0  WIDTH = 4.0  G-T = G_TYPE1
* 162 *      MULTIPLIER = 18.0  ..
* 163 *
* 164 *      DOOR      HEIGHT = 7.5  WIDTH = 3.0  CONS = DOORCON
* 165 *      MULTIPLIER = 2.0  ..
* 166 *
* 167 *
* 168 * 2ND_FLOOR =SPACE  AREA = 21765.0  VOLUME = 195885.0
* 169 *      AZIMUTH = 315  ZONE-TYPE = CONDITIONED
* 170 *      PEOPLE-SCHEDULE = OCCUPANCY  NUMBER-OF-PEOPLE = 125.0
* 171 *      PEOPLE-HEAT-GAIN = 640.0
* 172 *      LIGHTING-TYPE = REC-FLUOR-RV  LIGHTING-KW = 36.9
* 173 *      LIGHTING-SCHEDULE = LIGHT_SCHD
* 174 *      INF-METHOD = AIR-CHANGE  AIR-CHANGES/HR = 0.4
* 175 *      INF-SCHEDULE = FULL_ON  ..
* 176 *
* 177 *      E-W      HEIGHT = 9.0  WIDTH = 139.0  CONS = WALL_CON
* 178 *      AZIMUTH = 90  ..
* 179 *
* 180 *      WINDOW HEIGHT = 4.0  WIDTH = 4.0  G-T = G_TYPE1
* 181 *      MULTIPLIER = 8.0  ..
* 182 *
* 183 *      WINDOW HEIGHT = 8.0  WIDTH = 8.3  G-T = G_TYPE1 ..
* 184 *
* 185 *      E-W      HEIGHT = 9.0  WIDTH = 240.0  CONS = WALL_CON
* 186 *      AZIMUTH = 180  ..
* 187 *
* 188 *      WINDOW HEIGHT = 4.0  WIDTH = 4.0  G-T = G_TYPE1
* 189 *      MULTIPLIER = 22.0  ..
* 190 *
* 191 *      WINDOW HEIGHT = 8.0  WIDTH = 8.3  G-T = G_TYPE1 ..
* 192 *
* 193 *      E-W      HEIGHT = 9.0  WIDTH = 139.0  CONS = WALL_CON
* 194 *      AZIMUTH = 270  ..
* 195 *
* 196 *      WINDOW HEIGHT = 4.0  WIDTH = 4.0  G-T = G_TYPE1
* 197 *      MULTIPLIER = 8.0  ..
* 198 *
* 199 *      WINDOW HEIGHT = 8.0  WIDTH = 8.3  G-T = G_TYPE1 ..
* 200 *
* 201 *      E-W      HEIGHT = 9.0  WIDTH = 240.0  CONS = WALL_CON
* 202 *      AZIMUTH = 0  ..
* 203 *
* 204 *      WINDOW HEIGHT = 4.0  WIDTH = 4.0  G-T = G_TYPE1
* 205 *      MULTIPLIER = 18.0  ..
* 206 *
* 207 *      WINDOW HEIGHT = 8.0  WIDTH = 8.3  G-T = G_TYPE1 ..
* 208 *
* 209 *      ROOF      HEIGHT = 112.0  WIDTH = 240.0  CONS = ROOF_CON
* 210 *      TILT = 0  ..

```

**COMPUTER SIMULATIONS**  
**BUILDING 10000**

**RUN 4 - FORCED VENTILATION**

SDL PROCESSOR INPUT DATA

3/26/1995 12:49:19 SDL RUN 1

```

* 248 *
* 249 *
* 250 *           $-----$
* 251 *           $ E Z - D O E   S Y S T E M S   I N P U T $
* 252 *           $-----$
* 253 *
* 254 *           $ GENERAL PROJECT DATA
* 255 *
* 256 * TITLE  LINE-1 *      EMC      ENGINEERS      INC.      *
* 257 *       LINE-2 *EZDOE - ELITE SOFTWARE DEVELOPMENT INC*
* 258 *       LINE-3 *      DENVER,      CO      80227      *
* 259 *
* 260 *       LINE-4 *DIV CMD/CNTL BLDG
* 261 *       LINE-5 *MODEL WITH SET BACK,ECONOMIZER, & DDC * ..
* 262 * ABORT      ERRORS ..
* 263 * DIAGNOSTIC  WARNINGS ..
* 264 * SYSTEMS-REPORT SUMMARY=(SS-A,SS-B,SS-C,SS-F,SS-K,SS-O) ..
* 265 *
* 266 *           $ SCHEDULES
* 267 *
* 268 * FULL_ON_D  =DAY-SCHEDULE (1,24) (1.) ..
* 269 * FULL_OFF_D =DAY-SCHEDULE (1,24) (0.) ..
* 270 * HEAT_68_D  =DAY-SCHEDULE (1,24) (68.) ..
* 271 * COOL_75_D  =DAY-SCHEDULE (1,24) (78.) ..
* 272 * FAN_WSB_D  =DAY-SCHEDULE (1,4) (0.) ..
* 273 *           (5,16) (1.) ..
* 274 *           (17,24) (0.) ..
* 275 * HT68_WSB_D =DAY-SCHEDULE (1,4) (50.) ..
* 276 *           (5,16) (68.) ..
* 277 *           (17,24) (50.) ..
* 278 * HEAT_50_D  =DAY-SCHEDULE (1,24) (50.) ..
* 279 * CL75_WSB_D  =DAY-SCHEDULE (1,4) (85.) ..
* 280 *           (5,16) (78.) ..
* 281 *           (17,24) (85.) ..
* 282 * COOL_85_D  =DAY-SCHEDULE (1,24) (85.) ..
* 283 *
* 284 * FULL_ON_W  =WEEK-SCHEDULE (ALL) FULL_ON_D ..
* 285 *
* 286 * FULL_OFF_W =WEEK-SCHEDULE (ALL) FULL_OFF_D ..
* 287 *
* 288 * HEAT_68_W  =WEEK-SCHEDULE (ALL) HEAT_68_D ..
* 289 *
* 290 * COOL_75_W  =WEEK-SCHEDULE (ALL) COOL_75_D ..
* 291 *
* 292 * FAN_WSB_W  =WEEK-SCHEDULE (WD) FAN_WSB_D
* 293 *           (SAT) FULL_OFF_D
* 294 *           (SUN) FULL_OFF_D
* 295 *           (HOL) FAN_WSB_D ..
* 296 *
* 297 * HT68_WSB_W =WEEK-SCHEDULE (WD) HT68_WSB_D
* 298 *           (SAT) HEAT_50_D
* 299 *           (SUN) HEAT_50_D
* 300 *           (HOL) HT68_WSB_D ..
* 301 *
* 302 * CL75_WSB_W =WEEK-SCHEDULE (WD) CL75_WSB_D
* 303 *           (SAT) COOL_85_D
* 304 *           (SUN) COOL_85_D
* 305 *           (HOL) CL75_WSB_D ..
* 306 *
* 307 *
* 308 * FULL_ON    =SCHEDULE THRU DEC 31 FULL_ON_W ..
* 309 *
* 310 * FULL_OFF    =SCHEDULE THRU DEC 31 FULL_OFF_W ..
* 311 *
* 312 * HEAT_68     =SCHEDULE THRU DEC 31 HEAT_68_W ..
* 313 *
* 314 * COOL_75     =SCHEDULE THRU DEC 31 COOL_75_W ..
* 315 *
* 316 * $ SUMMER VENTILATION FANS
* 317 * SF_ON       =SCHEDULE THRU MAY 31 FULL_OFF_W
* 318 *           THRU SEP 15 FULL_ON_W
* 319 *           THRU DEC 31 FULL_OFF_W ..
* 320 *
* 321 * $ SUMMER VENTILATION W_SB
* 322 * SF_WSB      =SCHEDULE THRU MAY 31 FULL_OFF_W
* 323 *           THRU SEP 1 FAN_WSB_W
* 324 *           THRU DEC 31 FULL_OFF_W ..
* 325 *
* 326 * $ AHU FAN SET BACK SCHED
* 327 * FAN_WSB     =SCHEDULE THRU DEC 31 FAN_WSB_W ..
* 328 *
* 329 * $ HEATING SCHD W SET BACK
* 330 * HT68_W_SB   =SCHEDULE THRU DEC 31 HT68_WSB_W ..
* 331 *
* 332 * $ COOLING SCHD W SET BACK
* 333 * CL75_W_SB   =SCHEDULE THRU DEC 31 CL75_WSB_W ..
* 334 *
* 335 *
* 336 *
* 337 *           $ ZONE DESCRIPTION
* 338 *
* 339 * BASEMENT    =ZONE  DESIGN-HEAT-T = 68.0  DESIGN-COOL-T = 75.0
* 340 *           HEAT-TEMP-SCH = HT68_W_SB  COOL-TEMP-SCH = CL75_W_SB
* 341 *           ZONE-TYPE = CONDITIONED
* 342 *           THERMOSTAT-TYPE = PROPORTIONAL
* 343 *           BASEBOARD-CTRL = THERMOSTATIC
* 344 *           BASEBOARD-RATING = -63200.  ASSIGNED-CFM = 14850.
* 345 *           OUTSIDE-AIR-CFM = 5750.  SIZING-OPTION = FROM-LOADS
* 346 *           HEATING-CAPACITY = -185550.0  ..
* 347 *

```



```

* 211 *
* 212 *
* 213 * 1ST_FLR_B =SPACE AREA = 5000.0 VOLUME = 45000.0
* 214 * AZIMUTH = 315 ZONE-TYPE = CONDITIONED
* 215 * AREA/PERSON = 100.0 EQUIP-SCHEDULE = OCCUPANCY
* 216 * EQUIPMENT-KW = 0.75 EQUIP-SENSIBLE = 0.0
* 217 * FLOOR-WEIGHT = 0.1 INF-METHOD = AIR-CHANGE
* 218 * AIR-CHANGES/HR = 0.4 INF-SCHEDULE = FULL_ON ..
* 219 *
* 220 * I-W HEIGHT = 9.0 WIDTH = 1000.0 CONS = AIRWALL
* 221 * NEXT-TO = 1ST_FLOOR ..
* 222 *
* 223 *
* 224 * 2ND_FLR_B =SPACE AREA = 5000.0 VOLUME = 45000.0
* 225 * AZIMUTH = 315 ZONE-TYPE = CONDITIONED
* 226 * AREA/PERSON = 100.0 EQUIP-SCHEDULE = OCCUPANCY
* 227 * EQUIPMENT-KW = 1.12 EQUIP-SENSIBLE = 0.0
* 228 * FLOOR-WEIGHT = 0.1 INF-METHOD = AIR-CHANGE
* 229 * AIR-CHANGES/HR = 0.4 INF-SCHEDULE = FULL_ON ..
* 230 *
* 231 * I-W HEIGHT = 9.0 WIDTH = 1000.0 CONS = AIRWALL
* 232 * NEXT-TO = 2ND_FLOOR ..
* 233 *
* 234 *
* 235 * BASEMENT_B =SPACE AREA = 5000.0 VOLUME = 45000.0
* 236 * ZONE-TYPE = CONDITIONED AREA/PERSON = 100.0
* 237 * INF-METHOD = AIR-CHANGE AIR-CHANGES/HR = 0.33
* 238 * INF-SCHEDULE = FULL_ON ..
* 239 *
* 240 * I-W HEIGHT = 9.0 WIDTH = 1000.0 CONS = AIRWALL
* 241 * NEXT-TO = BASEMENT ..
* 242 *
* 243 *
* 244 * END ..
* 245 * COMPUTE LOADS ..
* 246 *
* 247 * INPUT SYSTEMS ..

```

```

* 348 * 1ST_FLOOR =ZONE DESIGN-HEAT-T = 68.0 DESIGN-COOL-T = 75.0
* 349 * HEAT-TEMP-SCH = HT68 W_SB ZONE-TYPE = CONDITIONED
* 350 * THERMOSTAT-TYPE = PROPORTIONAL
* 351 * BASEBOARD-CTRL = THERMOSTATIC
* 352 * BASEBOARD-RATING = -327500. ASSIGNED-CFM = 4160.
* 353 * OUTSIDE-AIR-CFM = 4160. SIZING-OPTION = FROM-LOADS ..
* 354 *
* 355 * 2ND_FLOOR =ZONE DESIGN-HEAT-T = 68.0 DESIGN-COOL-T = 75.0
* 356 * HEAT-TEMP-SCH = HT68 W_SB ZONE-TYPE = CONDITIONED
* 357 * THERMOSTAT-TYPE = PROPORTIONAL
* 358 * BASEBOARD-CTRL = THERMOSTATIC
* 359 * BASEBOARD-RATING = -365100. ASSIGNED-CFM = 4485.
* 360 * OUTSIDE-AIR-CFM = 4485. SIZING-OPTION = FROM-LOADS ..
* 361 *
* 362 * 1ST_FLR_B =ZONE DESIGN-HEAT-T = 68.0 DESIGN-COOL-T = 75.0
* 363 * ZONE-TYPE = CONDITIONED
* 364 * THERMOSTAT-TYPE = PROPORTIONAL
* 365 * BASEBOARD-CTRL = THERMOSTATIC ASSIGNED-CFM = 46795.
* 366 * OUTSIDE-AIR-CFM = 46795. SIZING-OPTION = FROM-LOADS
* 367 * EXHAUST-CFM = 2908.0 ..
* 368 *
* 369 * 2ND_FLR_B =ZONE DESIGN-HEAT-T = 68.0 DESIGN-COOL-T = 75.0
* 370 * ZONE-TYPE = CONDITIONED
* 371 * THERMOSTAT-TYPE = PROPORTIONAL
* 372 * BASEBOARD-CTRL = THERMOSTATIC ASSIGNED-CFM = 52996.
* 373 * OUTSIDE-AIR-CFM = 52996. SIZING-OPTION = FROM-LOADS
* 374 * EXHAUST-CFM = 4056.0 ..
* 375 *
* 376 * BASEMENT_B =ZONE DESIGN-HEAT-T = 68.0 DESIGN-COOL-T = 75.0
* 377 * ZONE-TYPE = CONDITIONED
* 378 * THERMOSTAT-TYPE = PROPORTIONAL
* 379 * BASEBOARD-CTRL = THERMOSTATIC ASSIGNED-CFM = 6950.
* 380 * OUTSIDE-AIR-CFM = 6950. SIZING-OPTION = FROM-LOADS ..
* 381 *
* 382 *
* 383 * $ SYSTEM DESCRIPTION
* 384 *
* 385 * AHU_1-14 =SYSTEM SYSTEM-TYPE = SZRH
* 386 * MAX-SUPPLY-T = 120.0 MIN-SUPPLY-T = 50.0
* 387 * PREHEAT-T = 68.0 MIN-HUMIDITY = 30.0
* 388 * ECONO-LIMIT-T = 65.0 ECONO-LOW-LIMIT = 55.0
* 389 * SUPPLY-CFM = 14850. RETURN-CFM = 9100.
* 390 * RATED-CFM = 14850. MIN-OUTSIDE-AIR = 0.39
* 391 * FAN-SCHEDULE = FAN WSB SUPPLY-DELTA-T = 2.4
* 392 * SUPPLY-KW = 0.00078
* 393 * MOTOR-PLACEMENT = OUTSIDE-AIRFLOW
* 394 * NIGHT-CYCLE-CTRL = CYCLE-ON-ANY NIGHT-VENT-DT = 0.0
* 395 * MIN-CFM-RATIO = 1.0 REHEAT-DELTA-T = 4.
* 396 * COOLING-CAPACITY = 484089. COOL-SH-CAP = 373406.
* 397 * HEATING-CAPACITY = -403140. FURNACE-AUX = 0.
* 398 * PREHEAT-SOURCE = HOT-WATER
* 399 * ZONE-NAMES = (BASEMENT) ..
* 400 *
* 401 * AHU_15&16 =SYSTEM SYSTEM-TYPE = HVSYS
* 402 * MAX-SUPPLY-T = 120.0 MIN-HUMIDITY = 30.0
* 403 * ECONO-LIMIT-T = 65.0 ECONO-LOW-LIMIT = 55.0
* 404 * HEAT-CONTROL = COLDEST SUPPLY-CFM = 4160.
* 405 * RATED-CFM = 4160. MIN-OUTSIDE-AIR = 1.0
* 406 * FAN-SCHEDULE = FAN WSB SUPPLY-DELTA-T = 2.4
* 407 * SUPPLY-KW = 0.00078
* 408 * MOTOR-PLACEMENT = OUTSIDE-AIRFLOW
* 409 * NIGHT-CYCLE-CTRL = CYCLE-ON-ANY NIGHT-VENT-DT = 0.0
* 410 * HEATING-CAPACITY = -336960. FURNACE-AUX = 0.
* 411 * ZONE-NAMES = (1ST_FLOOR) ..
* 412 *
* 413 * AHU_17&18 =SYSTEM SYSTEM-TYPE = HVSYS
* 414 * MAX-SUPPLY-T = 120.0 MIN-HUMIDITY = 30.0
* 415 * ECONO-LIMIT-T = 65.0 ECONO-LOW-LIMIT = 55.0
* 416 * HEAT-CONTROL = COLDEST SUPPLY-CFM = 4485.
* 417 * RATED-CFM = 4485. MIN-OUTSIDE-AIR = 1.0
* 418 * FAN-SCHEDULE = FAN WSB SUPPLY-DELTA-T = 2.4
* 419 * SUPPLY-KW = 0.00078 NIGHT-CYCLE-CTRL = CYCLE-ON-ANY
* 420 * NIGHT-VENT-DT = 0.0 HEATING-CAPACITY = -363680.
* 421 * FURNACE-AUX = 0.
* 422 * ZONE-NAMES = (2ND_FLOOR) ..
* 423 *
* 424 * SF_1&2 =SYSTEM SYSTEM-TYPE = HVSYS
* 425 * MAX-SUPPLY-T = 120.0 HEATING-SCHEDULE = FULL_OFF
* 426 * MIN-HUMIDITY = 30.0 ECONO-LIMIT-T = 65.0
* 427 * ECONO-LOW-LIMIT = 55.0 SUPPLY-CFM = 46795.
* 428 * RATED-CFM = 46795. MIN-OUTSIDE-AIR = 1.0
* 429 * FAN-SCHEDULE = SF WSB SUPPLY-DELTA-T = 2.4
* 430 * SUPPLY-KW = 0.0006
* 431 * MOTOR-PLACEMENT = OUTSIDE-AIRFLOW
* 432 * NIGHT-CYCLE-CTRL = CYCLE-ON-ANY NIGHT-VENT-DT = 0.0
* 433 * FURNACE-AUX = 0.
* 434 * ZONE-NAMES = (1ST_FLR_B) ..
* 435 *
* 436 * SF_3&4 =SYSTEM SYSTEM-TYPE = HVSYS
* 437 * MAX-SUPPLY-T = 120.0 HEATING-SCHEDULE = FULL_OFF
* 438 * MIN-HUMIDITY = 30.0 ECONO-LIMIT-T = 65.0
* 439 * ECONO-LOW-LIMIT = 55.0 SUPPLY-CFM = 52996.
* 440 * RATED-CFM = 52996. MIN-OUTSIDE-AIR = 1.0
* 441 * FAN-SCHEDULE = SF WSB SUPPLY-DELTA-T = 2.4
* 442 * SUPPLY-KW = 0.0006
* 443 * MOTOR-PLACEMENT = OUTSIDE-AIRFLOW
* 444 * NIGHT-CYCLE-CTRL = CYCLE-ON-ANY NIGHT-VENT-DT = 0.0
* 445 * FURNACE-AUX = 0.
* 446 * ZONE-NAMES = (2ND_FLR_B) ..
* 447 *
* 448 * SF_31-33 =SYSTEM SYSTEM-TYPE = HVSYS
* 449 * MAX-SUPPLY-T = 120.0 HEATING-SCHEDULE = FULL_OFF
* 450 * MIN-HUMIDITY = 30.0 ECONO-LIMIT-T = 65.0
* 451 * ECONO-LOW-LIMIT = 55.0 SUPPLY-CFM = 6950.
* 452 * RATED-CFM = 6950. MIN-OUTSIDE-AIR = 1.0
* 453 * FAN-SCHEDULE = SF WSB SUPPLY-DELTA-T = 2.4
* 454 * SUPPLY-KW = 0.0006
* 455 * MOTOR-PLACEMENT = OUTSIDE-AIRFLOW

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```
* 456 *           NIGHT-CYCLE-CTRL = CYCLE-ON-ANY  NIGHT-VENT-DT = 0.0
* 457 *           FURNACE-AUX = 0.
* 458 *           ZONE-NAMES = (BASEMENT_B)  ..
* 459 *
* 460 * END  ..
* 461 * COMPUTE SYSTEMS  ..
* 462 *
* 463 * INPUT PLANT  ..
```

P D L P R O C E S S O R I N P U T D A T A

3/26/1995 12:49:19 PDL RUN 1

```

* 464 *
* 465 *
* 466 *           $-----$
* 467 *           $ E Z - D O E P L A N T S I N P U T $
* 468 *           $-----$
* 469 *
* 470 *           $ GENERAL PROJECT DATA
* 471 *
* 472 * TITLE  LINE-1 *      EMC      ENGINEERS      INC.      *
* 473 * LINE-2 *EZDOE - ELITE SOFTWARE DEVELOPMENT INC*
* 474 * LINE-3 *      DENVER,      CO      80227      *
* 475 *
* 476 * LINE-4 *DIV CMD/CNTL BLDG
* 477 * LINE-5 *MODEL WITH SET BACK,ECONOMIZER, & DDC * ..
* 478 *
* 479 * ABORT      ERRORS      ..
* 480 * DIAGNOSTIC  WARNINGS ..
* 481 * PLANT-REPORT SUMMARY=(PS-A,PS-B,BEPS)
* 482 * ..
* 483 *
* 484 *           $ SCHEDULES
* 485 *
* 486 * FULL_ON_D  =DAY-SCHEDULE  (1,24) (1.) ..
* 487 *
* 488 *
* 489 * FULL_ON_W  =WEEK-SCHEDULE  (ALL) FULL_ON_D ..
* 490 *
* 491 *
* 492 * FULL_ON    =SCHEDULE THRU DEC 31 FULL_ON_W ..
* 493 *
* 494 *
* 495 *
* 496 *           $ EQUIPMENT DESCRIPTION
* 497 *
* 498 * HE1&2      =PLANT-EQUIPMENT  TYPE = HTANK-STORAGE
* 499 *              SIZE = 2.5 ..
* 500 *
* 501 * CH1&2      =PLANT-EQUIPMENT  TYPE = OPEN-REC-CHLR
* 502 *              SIZE = 0.4  INSTALLED-NUMBER = 2
* 503 *              MAX-NUMBER-AVAIL = 2 ..
* 504 *
* 505 * PLANT-PARAMETERS  OPEN-REC-COND-TYPE = AIR  CHILL-WTR-T = 45.
* 506 *              CCIRC-HEAD = 45.0  HCIRC-HEAD = 55.0 ..
* 507 *
* 508 *
* 509 * ENERGY-RESOURCE  RESOURCE = STEAM  SOURCE-SITE-EFF = 1.000 ..
* 510 * ENERGY-RESOURCE  RESOURCE = ELECTRICITY ..
* 511 *
* 512 * ENERGY-STORAGE  HEAT-STORE-RATE = 2.48  HEAT-SUPPLY-RATE = 2.48
* 513 *              HTANK-BASE-T = 212.0  HEAT-STORE-SCH = FULL_ON ..
* 514 *
* 515 * HEAT-RECOVERY
* 516 *       SUPPLY-1 = (HTANK-STORAGE)
* 517 *       DEMAND-1 = (SPACE-HEAT,PROCESS-HEAT) ..
* 518 *
* 519 *
* 520 *
* 521 * END ..
* 522 * COMPUTE PLANT ..
* 523 * STOP ..

```

ENERGY TYPE IN SITE MBTU-	STEAM	ELECTRICITY	RECOVERED
CATEGORY OF USE			
SPACE HEAT	2,737.02	0.00	
SPACE COOL	0.00	0.01	
HVAC AUX	0.00	397.70	
DOM HOT WTR	0.00	0.00	
AUX SOLAR	0.00	0.00	
LIGHTS	0.00	923.34	
VERT TRANS	0.00	0.00	
MISC EQUIP	0.00	16.26	
	-----	-----	
TOTAL	2,737.02	1,337.30	

TOTAL SITE ENERGY 4074.32 MBTU 50.7 KBTU/SQFT-YR GROSS-AREA 50.7 KBTU/SQFT-YR NET-AREA  
 TOTAL SOURCE ENERGY 6752.93 MBTU 84.1 KBTU/SQFT-YR GROSS-AREA 84.1 KBTU/SQFT-YR NET-AREA

PERCENT OF HOURS ANY SYSTEM ZONE OUTSIDE OF THROTTLING RANGE = 19.8  
 PERCENT OF HOURS ANY PLANT LOAD NOT SATISFIED = 0.0

NOTE ELECTRICITY AND/OR FUEL USED TO GENERATE ELECTRICITY IS APPORTIONED BASED  
 ON THE YEARLY DEMAND. ALL OTHER ENERGY TYPES ARE APPORTIONED HOURLY.

EMC ENGINEERS INC. E2DOE - ELITE SOFTWARE DEVELOPMENT INC  
 DENVER, CO 80227 DIV CMD/CNTL BLDG  
 REPORT- PS-B MONTHLY PEAK AND TOTAL ENERGY USE

DOE-2.1D 3/26/1995 12:49:19 PDL RUN 1  
 MODEL WITH SET BACK, ECONOMIZER, & DDC  
 WEATHER FILE- MASSENA, NY

MO	UTILITY-	STEAM	ELECTRICITY
	TOTAL (MBTU)	601.007	95.506
JAN	PEAK (KBTU)	2889.807	384.857
	DY/HR	5/12	31/16
	TOTAL (MBTU)	437.449	89.792
FEB	PEAK (KBTU)	2625.958	384.857
	DY/HR	14/ 5	28/16
	TOTAL (MBTU)	448.844	103.091
MAR	PEAK (KBTU)	2754.101	384.857
	DY/HR	9/ 5	31/16
	TOTAL (MBTU)	205.244	94.118
APR	PEAK (KBTU)	2379.015	384.857
	DY/HR	1/ 5	29/16
	TOTAL (MBTU)	102.963	98.522
MAY	PEAK (KBTU)	2184.976	384.857
	DY/HR	2/ 5	31/10
	TOTAL (MBTU)	60.617	155.359
JUN	PEAK (KBTU)	1857.864	604.086
	DY/HR	8/ 6	16/10
	TOTAL (MBTU)	5.022	147.244
JUL	PEAK (KBTU)	450.391	603.533
	DY/HR	11/ 6	25/10
	TOTAL (MBTU)	31.499	161.728
AUG	PEAK (KBTU)	1118.773	603.533
	DY/HR	22/ 8	31/10
	TOTAL (MBTU)	25.063	100.474
SEP	PEAK (KBTU)	948.890	593.777
	DY/HR	19/ 5	1/16
	TOTAL (MBTU)	124.876	94.089
OCT	PEAK (KBTU)	2062.289	384.857
	DY/HR	31/ 5	31/16
	TOTAL (MBTU)	267.599	98.599
NOV	PEAK (KBTU)	2464.689	384.857
	DY/HR	28/ 5	30/16
	TOTAL (MBTU)	426.841	98.775
DEC	PEAK (KBTU)	2574.757	384.857
	DY/HR	23/ 5	30/16
	ONE YEAR	2737.022	1337.298
	USE/PEAK	2889.807	604.086

LDL PROCESSOR INPUT DATA

3/26/1995 12:55:55 LDL RUN 1

```

* 3 *
* 4 *
* 5 *
* 6 * $-----$
* 7 * $EZ - DOE LOADS INPUT$
* 8 * $-----$
* 9 *
* 10 * $ GENERAL PROJECT DATA
* 11 * TITLE LINE-1 * EMC ENGINEERS INC. *
* 12 * LINE-2 *EZDOE - ELITE SOFTWARE DEVELOPMENT INC*
* 13 * LINE-3 * DENVER, CO 80227 *
* 14 *
* 15 * LINE-4 *DIV CMD/CNTL BLDG *
* 16 * LINE-5 *SETBACK,ECON,DDC,&FORCED VENTILATION * ..
* 17 *
* 18 * ABORT ERRORS ..
* 19 * DIAGNOSTIC WARNINGS ..
* 20 * LOADS-REPORT SUMMARY=(LS-C,LS-D) ..
* 21 * BUILDING-LOCATION GROSS-AREA = 80294
* 22 * X-REF = 0.0
* 23 * Y-REF = 0.0 ..
* 24 * RUN-PERIOD JAN 1 1994 THRU DEC 31 1994 ..
* 25 *
* 26 *
* 27 * $ SCHEDULES
* 28 *
* 29 * FULL_ON_D =DAY-SCHEDULE (1,24) (1.) ..
* 30 *
* 31 * FULL_OFF_D =DAY-SCHEDULE (1,24) (0.) ..
* 32 *
* 33 * PEOPLE_D =DAY-SCHEDULE (1,5) (0.)
* 34 * (6,10) (1.)
* 35 * (11,12) (0.8,0.4)
* 36 * (13,14) (0.8)
* 37 * (15,16) (1.)
* 38 * (17,24) (0.) ..
* 39 *
* 40 * LIGHT_ON_D =DAY-SCHEDULE (1,3) (0.)
* 41 * (4,5) (0.1)
* 42 * (6) (0.2)
* 43 * (7,9) (0.9)
* 44 * (10,11) (1.)
* 45 * (12,13) (0.8)
* 46 * (14,15) (0.9)
* 47 * (16,20) (1.,0.8,0.7,0.4,0.2)
* 48 * (21,24) (0.) ..
* 49 *
* 50 *
* 51 * FULL_ON_W =WEEK-SCHEDULE (ALL) FULL_ON_D ..
* 52 *
* 53 * FULL_OFF_W =WEEK-SCHEDULE (ALL) FULL_OFF_D ..
* 54 *
* 55 * PEOPLE_W =WEEK-SCHEDULE (WD) PEOPLE_D
* 56 * (SAT) FULL_OFF_D
* 57 * (SUN) FULL_OFF_D
* 58 * (HOL) PEOPLE_D ..
* 59 *
* 60 * LIGHT_ON_W =WEEK-SCHEDULE (WD) LIGHT_ON_D
* 61 * (SAT) FULL_OFF_D
* 62 * (SUN) FULL_OFF_D
* 63 * (HOL) LIGHT_ON_D ..
* 64 *
* 65 *
* 66 * FULL_ON =SCHEDULE THRU DEC 31 FULL_ON_W ..
* 67 *
* 68 * FULL_OFF =SCHEDULE THRU DEC 31 FULL_OFF_W ..
* 69 *
* 70 * OCCUPANCY =SCHEDULE THRU DEC 31 PEOPLE_W ..
* 71 *
* 72 * LIGHT_SCHD =SCHEDULE THRU DEC 31 LIGHT_ON_W ..
* 73 *
* 74 *
* 75 *
* 76 * $ CONSTRUCTION TYPES
* 77 *
* 78 *
* 79 *
* 80 *
* 81 * $ BASEMENT FLOOR & WALLS
* 82 * FLOORCON =CONSTRUCTION U-VALUE = 0.100 ..
* 83 * ROOF_CON =CONSTRUCTION U-VALUE = 0.050 ..
* 84 *
* 85 * $ EXTERIOR WALL
* 86 * WALL_CON =CONSTRUCTION U-VALUE = 0.200 ..
* 87 * DOORCON =CONSTRUCTION U-VALUE = 1.000 ..
* 88 * AIRWALL =CONSTRUCTION U-VALUE = 20.000 ..
* 89 *
* 90 * G_TYPE1 =GLASS-TYPE GLASS-TYPE-CODE = 1
* 91 * PANES = 1
* 92 * GLASS-CONDUCTANCE = 1.130 ..
* 93 *
* 94 *
* 95 *
* 96 *
* 97 * $ SPACE DESCRIPTION
* 98 *
* 99 * BASEMENT =SPACE AREA = 21765.0 VOLUME = 195885.0
* 100 * AZIMUTH = 315 ZONE-TYPE = CONDITIONED
* 101 * PEOPLE-SCHEDULE = OCCUPANCY NUMBER-OF-PEOPLE = 125.0
* 102 * PEOPLE-HEAT-GAIN = 640.0

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* 103 *      LIGHTING-TYPE = REC-FLUOR-RV  LIGHTING-KW = 20.1
* 104 *      LIGHTING-SCHEDULE = LIGHT_SCHD
* 105 *      INF-METHOD = AIR-CHANGE  AIR-CHANGES/HR = 0.33
* 106 *      INF-SCHEDULE = FULL_ON  ..
* 107 *
* 108 *      U-W      HEIGHT = 9.0  WIDTH = 139.0  CONS = FLOORCON
* 109 *      AZIMUTH = 90  ..
* 110 *
* 111 *      U-W      HEIGHT = 9.0  WIDTH = 240.0  CONS = FLOORCON
* 112 *      AZIMUTH = 180  ..
* 113 *
* 114 *      U-W      HEIGHT = 9.0  WIDTH = 139.0  CONS = FLOORCON
* 115 *      AZIMUTH = 270  ..
* 116 *
* 117 *      U-W      HEIGHT = 9.0  WIDTH = 240.0  CONS = FLOORCON ..
* 118 *
* 119 *      U-W      HEIGHT = 112.0  WIDTH = 240.0  CONS = FLOORCON ..
* 120 *
* 121 *
* 122 * 1ST_FLOOR =SPACE  AREA = 21765.0  VOLUME = 195885.0
* 123 *      AZIMUTH = 315  ZONE-TYPE = CONDITIONED
* 124 *      PEOPLE-SCHEDULE = OCCUPANCY  NUMBER-OF-PEOPLE = 125.0
* 125 *      PEOPLE-HEAT-GAIN = 640.0
* 126 *      LIGHTING-TYPE = REC-FLUOR-RV  LIGHTING-KW = 32.7
* 127 *      LIGHTING-SCHEDULE = LIGHT_SCHD
* 128 *      INF-METHOD = AIR-CHANGE  AIR-CHANGES/HR = 0.4
* 129 *      INF-SCHEDULE = FULL_ON  ..
* 130 *
* 131 *      E-W      HEIGHT = 9.0  WIDTH = 139.0  CONS = WALL_CON
* 132 *      AZIMUTH = 90  ..
* 133 *
* 134 *      WINDOW HEIGHT = 6.0  WIDTH = 4.0  G-T = G_TYPE1
* 135 *      MULTIPLIER = 8.0  ..
* 136 *
* 137 *      DOOR  HEIGHT = 7.5  WIDTH = 3.0  CONS = DOORCON
* 138 *      MULTIPLIER = 2.0  ..
* 139 *
* 140 *      E-W      HEIGHT = 9.0  WIDTH = 240.0  CONS = WALL_CON
* 141 *      AZIMUTH = 180  ..
* 142 *
* 143 *      WINDOW HEIGHT = 6.0  WIDTH = 4.0  G-T = G_TYPE1
* 144 *      MULTIPLIER = 22.0  ..
* 145 *
* 146 *      DOOR  HEIGHT = 7.5  WIDTH = 3.0  CONS = DOORCON
* 147 *      MULTIPLIER = 2.0  ..
* 148 *
* 149 *      E-W      HEIGHT = 9.0  WIDTH = 139.0  CONS = WALL_CON
* 150 *      AZIMUTH = 270  ..
* 151 *
* 152 *      WINDOW HEIGHT = 6.0  WIDTH = 4.0  G-T = G_TYPE1
* 153 *      MULTIPLIER = 8.0  ..
* 154 *
* 155 *      DOOR  HEIGHT = 7.5  WIDTH = 3.0  CONS = DOORCON
* 156 *      MULTIPLIER = 2.0  ..
* 157 *
* 158 *      E-W      HEIGHT = 9.0  WIDTH = 240.0  CONS = WALL_CON
* 159 *      AZIMUTH = 0  ..
* 160 *
* 161 *      WINDOW HEIGHT = 6.0  WIDTH = 4.0  G-T = G_TYPE1
* 162 *      MULTIPLIER = 18.0  ..
* 163 *
* 164 *      DOOR  HEIGHT = 7.5  WIDTH = 3.0  CONS = DOORCON
* 165 *      MULTIPLIER = 2.0  ..
* 166 *
* 167 *
* 168 * 2ND_FLOOR =SPACE  AREA = 21765.0  VOLUME = 195885.0
* 169 *      AZIMUTH = 315  ZONE-TYPE = CONDITIONED
* 170 *      PEOPLE-SCHEDULE = OCCUPANCY  NUMBER-OF-PEOPLE = 125.0
* 171 *      PEOPLE-HEAT-GAIN = 640.0
* 172 *      LIGHTING-TYPE = REC-FLUOR-RV  LIGHTING-KW = 36.9
* 173 *      LIGHTING-SCHEDULE = LIGHT_SCHD
* 174 *      INF-METHOD = AIR-CHANGE  AIR-CHANGES/HR = 0.4
* 175 *      INF-SCHEDULE = FULL_ON  ..
* 176 *
* 177 *      E-W      HEIGHT = 9.0  WIDTH = 139.0  CONS = WALL_CON
* 178 *      AZIMUTH = 90  ..
* 179 *
* 180 *      WINDOW HEIGHT = 4.0  WIDTH = 4.0  G-T = G_TYPE1
* 181 *      MULTIPLIER = 8.0  ..
* 182 *
* 183 *      WINDOW HEIGHT = 8.0  WIDTH = 8.3  G-T = G_TYPE1 ..
* 184 *
* 185 *      E-W      HEIGHT = 9.0  WIDTH = 240.0  CONS = WALL_CON
* 186 *      AZIMUTH = 180  ..
* 187 *
* 188 *      WINDOW HEIGHT = 4.0  WIDTH = 4.0  G-T = G_TYPE1
* 189 *      MULTIPLIER = 22.0  ..
* 190 *
* 191 *      WINDOW HEIGHT = 8.0  WIDTH = 8.3  G-T = G_TYPE1 ..
* 192 *
* 193 *      E-W      HEIGHT = 9.0  WIDTH = 139.0  CONS = WALL_CON
* 194 *      AZIMUTH = 270  ..
* 195 *
* 196 *      WINDOW HEIGHT = 4.0  WIDTH = 4.0  G-T = G_TYPE1
* 197 *      MULTIPLIER = 8.0  ..
* 198 *
* 199 *      WINDOW HEIGHT = 8.0  WIDTH = 8.3  G-T = G_TYPE1 ..
* 200 *
* 201 *      E-W      HEIGHT = 9.0  WIDTH = 240.0  CONS = WALL_CON
* 202 *      AZIMUTH = 0  ..
* 203 *
* 204 *      WINDOW HEIGHT = 4.0  WIDTH = 4.0  G-T = G_TYPE1
* 205 *      MULTIPLIER = 18.0  ..
* 206 *
* 207 *      WINDOW HEIGHT = 8.0  WIDTH = 8.3  G-T = G_TYPE1 ..
* 208 *
* 209 *      ROOF      HEIGHT = 112.0  WIDTH = 240.0  CONS = ROOF_CON
* 210 *      TILT = 0  ..

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* 211 *
* 212 *
* 213 * 1ST_FLR_B =SPACE AREA = 5000.0 VOLUME = 45000.0
* 214 * AZIMUTH = 315 ZONE-TYPE = CONDITIONED
* 215 * AREA/PERSON = 100.0 EQUIP-SCHEDULE = OCCUPANCY
* 216 * EQUIPMENT-KW = 0.75 EQUIP-SENSIBLE = 0.0
* 217 * FLOOR-WEIGHT = 0.1 INF-METHOD = AIR-CHANGE
* 218 * AIR-CHANGES/HR = 0.4 INF-SCHEDULE = FULL_ON ..
* 219 *
* 220 * I-W HEIGHT = 9.0 WIDTH = 1000.0 CONS = AIRWALL
* 221 * NEXT-TO = 1ST_FLOOR ..
* 222 *
* 223 *
* 224 * 2ND_FLR_B =SPACE AREA = 5000.0 VOLUME = 45000.0
* 225 * AZIMUTH = 315 ZONE-TYPE = CONDITIONED
* 226 * AREA/PERSON = 100.0 EQUIP-SCHEDULE = OCCUPANCY
* 227 * EQUIPMENT-KW = 1.12 EQUIP-SENSIBLE = 0.0
* 228 * FLOOR-WEIGHT = 0.1 INF-METHOD = AIR-CHANGE
* 229 * AIR-CHANGES/HR = 0.4 INF-SCHEDULE = FULL_ON ..
* 230 *
* 231 * I-W HEIGHT = 9.0 WIDTH = 1000.0 CONS = AIRWALL
* 232 * NEXT-TO = 2ND_FLOOR ..
* 233 *
* 234 *
* 235 * BASEMENT_B =SPACE AREA = 5000.0 VOLUME = 45000.0
* 236 * ZONE-TYPE = CONDITIONED AREA/PERSON = 100.0
* 237 * INF-METHOD = AIR-CHANGE AIR-CHANGES/HR = 0.33
* 238 * INF-SCHEDULE = FULL_ON ..
* 239 *
* 240 * I-W HEIGHT = 9.0 WIDTH = 1000.0 CONS = AIRWALL
* 241 * NEXT-TO = BASEMENT ..
* 242 *
* 243 *
* 244 * END ..
* 245 * COMPUTE LOADS ..
* 246 *
* 247 * INPUT SYSTEMS ..

```

SDL PROCESSOR INPUT DATA

3/26/1995 12:55:55 SDL RUN 1

```

* 248 *
* 249 *
* 250 *          $-----$
* 251 *          $ E Z - D O E   S Y S T E M S   I N P U T $
* 252 *          $-----$
* 253 *
* 254 *          $ GENERAL PROJECT DATA
* 255 *
* 256 * TITLE LINE-1 *      EMC      ENGINEERS      INC.      *
* 257 *          LINE-2 *EZDOE - ELITE SOFTWARE DEVELOPMENT INC*
* 258 *          LINE-3 *      DENVER,      CO      80227      *
* 259 *
* 260 *          LINE-4 *DIV CMD/CNTL BLDG      *
* 261 *          LINE-5 *SETBACK,ECON,DDC,&FORCED VENTILATION * ..
* 262 * ABORT      ERRORS ..
* 263 * DIAGNOSTIC WARNINGS ..
* 264 * SYSTEMS-REPORT SUMMARY={SS-A,SS-B,SS-C,SS-F,SS-K,SS-O} ..
* 265 *
* 266 *          $ SCHEDULES
* 267 *
* 268 * FULL_ON_D =DAY-SCHEDULE (1,24) (1.) ..
* 269 * FULL_OFF_D =DAY-SCHEDULE (1,24) (0.) ..
* 270 * HEAT_68_D =DAY-SCHEDULE (1,24) (68.) ..
* 271 * COOL_75_D =DAY-SCHEDULE (1,24) (78.) ..
* 272 * FAN_WSB_D =DAY-SCHEDULE (1,4) (0.) ..
* 273 *          (5,16) (1.) ..
* 274 *          (17,24) (0.) ..
* 275 * HT68_WSB_D =DAY-SCHEDULE (1,4) (50.) ..
* 276 *          (5,16) (68.) ..
* 277 *          (17,24) (50.) ..
* 278 * HEAT_50_D =DAY-SCHEDULE (1,24) (50.) ..
* 279 * CL75_WSB_D =DAY-SCHEDULE (1,4) (85.) ..
* 280 *          (5,16) (78.) ..
* 281 *          (17,24) (85.) ..
* 282 * COOL_85_D =DAY-SCHEDULE (1,24) (85.) ..
* 283 * MIN_OA_1_D =DAY-SCHEDULE (1,5) (0.) ..
* 284 *          (6,24) (0.39) ..
* 285 * MINOA2 =DAY-SCHEDULE (1,5) (0.) ..
* 286 *          (6,24) (1.) ..
* 287 *
* 288 * FULL_ON_W =WEEK-SCHEDULE (ALL) FULL_ON_D ..
* 289 *
* 290 * FULL_OFF_W =WEEK-SCHEDULE (ALL) FULL_OFF_D ..
* 291 *
* 292 * HEAT_68_W =WEEK-SCHEDULE (ALL) HEAT_68_D ..
* 293 *
* 294 * COOL_75_W =WEEK-SCHEDULE (ALL) COOL_75_D ..
* 295 *
* 296 * FAN_WSB_W =WEEK-SCHEDULE (WD) FAN_WSB_D
* 297 *          (SAT) FULL_OFF_D
* 298 *          (SUN) FULL_OFF_D
* 299 *          (HOL) FAN_WSB_D ..
* 300 *
* 301 * HT68_WSB_W =WEEK-SCHEDULE (WD) HT68_WSB_D
* 302 *          (SAT) HEAT_50_D
* 303 *          (SUN) HEAT_50_D
* 304 *          (HOL) HT68_WSB_D ..
* 305 *
* 306 * CL75_WSB_W =WEEK-SCHEDULE (WD) CL75_WSB_D
* 307 *          (SAT) COOL_85_D
* 308 *          (SUN) COOL_85_D
* 309 *          (HOL) CL75_WSB_D ..
* 310 *
* 311 * MINOA1_W =WEEK-SCHEDULE (ALL) MIN_OA_1_D ..
* 312 *
* 313 * MIN_OA2_W =WEEK-SCHEDULE (ALL) MINOA2 ..
* 314 *
* 315 *
* 316 * FULL_ON =SCHEDULE THRU DEC 31 FULL_ON_W ..
* 317 *
* 318 * FULL_OFF =SCHEDULE THRU DEC 31 FULL_OFF_W ..
* 319 *
* 320 * HEAT_68 =SCHEDULE THRU DEC 31 HEAT_68_W ..
* 321 *
* 322 * COOL_75 =SCHEDULE THRU DEC 31 COOL_75_W ..
* 323 *
* 324 * $ SUMMER VENTILATION FANS
* 325 * SF_ON =SCHEDULE THRU MAY 31 FULL_OFF_W
* 326 *          THRU SEP 15 FULL_ON_W
* 327 *          THRU DEC 31 FULL_OFF_W ..
* 328 *
* 329 * $ SUMMER VENTILATION W_SB
* 330 * SF_WSB =SCHEDULE THRU MAY 31 FULL_OFF_W
* 331 *          THRU SEP 1 FAN_WSB_W
* 332 *          THRU DEC 31 FULL_OFF_W ..
* 333 *
* 334 * $ AHU FAN SET BACK SCHED
* 335 * FAN_WSB =SCHEDULE THRU DEC 31 FAN_WSB_W ..
* 336 *
* 337 * $ HEATING SCHED W SET BACK
* 338 * HT68_W_SB =SCHEDULE THRU DEC 31 HT68_WSB_W ..
* 339 *
* 340 * $ COOLING SCHED W SET BACK
* 341 * CL75_W_SB =SCHEDULE THRU DEC 31 CL75_WSB_W ..
* 342 *
* 343 * $ FOR FORCED VENTILATION
* 344 * MIN_OA_1 =SCHEDULE THRU DEC 31 MINOA1_W ..
* 345 *
* 346 * MIN_OA2 =SCHEDULE THRU DEC 31 MINOA2_W ..
* 347 *

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* 348 *
* 349 *
* 350 *
* 351 *
* 352 * BASEMENT =ZONE DESIGN-HEAT-T = 68.0 DESIGN-COOL-T = 75.0
* 353 * HEAT-TEMP-SCH = HT68 W_SB COOL-TEMP-SCH = CL75 W_SB
* 354 * ZONE-TYPE = CONDITIONED
* 355 * THERMOSTAT-TYPE = PROPORTIONAL
* 356 * BASEBOARD-CTRL = THERMOSTATIC
* 357 * BASEBOARD-RATING = -63200. ASSIGNED-CFM = 14850.
* 358 * OUTSIDE-AIR-CFM = 5750. SIZING-OPTION = FROM-LOADS
* 359 * HEATING-CAPACITY = -185550.0 ..
* 360 *
* 361 * 1ST_FLOOR =ZONE DESIGN-HEAT-T = 68.0 DESIGN-COOL-T = 75.0
* 362 * HEAT-TEMP-SCH = HT68 W_SB ZONE-TYPE = CONDITIONED
* 363 * THERMOSTAT-TYPE = PROPORTIONAL
* 364 * BASEBOARD-CTRL = THERMOSTATIC
* 365 * BASEBOARD-RATING = -327500. ASSIGNED-CFM = 4160.
* 366 * OUTSIDE-AIR-CFM = 4160. SIZING-OPTION = FROM-LOADS ..
* 367 *
* 368 * 2ND_FLOOR =ZONE DESIGN-HEAT-T = 68.0 DESIGN-COOL-T = 75.0
* 369 * HEAT-TEMP-SCH = HT68 W_SB ZONE-TYPE = CONDITIONED
* 370 * THERMOSTAT-TYPE = PROPORTIONAL
* 371 * BASEBOARD-CTRL = THERMOSTATIC
* 372 * BASEBOARD-RATING = -365100. ASSIGNED-CFM = 4485.
* 373 * OUTSIDE-AIR-CFM = 4485. SIZING-OPTION = FROM-LOADS ..
* 374 *
* 375 * 1ST_FLR_B =ZONE DESIGN-HEAT-T = 68.0 DESIGN-COOL-T = 75.0
* 376 * ZONE-TYPE = CONDITIONED
* 377 * THERMOSTAT-TYPE = PROPORTIONAL
* 378 * BASEBOARD-CTRL = THERMOSTATIC ASSIGNED-CFM = 46795.
* 379 * OUTSIDE-AIR-CFM = 46795. SIZING-OPTION = FROM-LOADS
* 380 * EXHAUST-CFM = 2908.0 ..
* 381 *
* 382 * 2ND_FLR_B =ZONE DESIGN-HEAT-T = 68.0 DESIGN-COOL-T = 75.0
* 383 * ZONE-TYPE = CONDITIONED
* 384 * THERMOSTAT-TYPE = PROPORTIONAL
* 385 * BASEBOARD-CTRL = THERMOSTATIC ASSIGNED-CFM = 52996.
* 386 * OUTSIDE-AIR-CFM = 52996. SIZING-OPTION = FROM-LOADS
* 387 * EXHAUST-CFM = 4056.0 ..
* 388 *
* 389 * BASEMENT_B =ZONE DESIGN-HEAT-T = 68.0 DESIGN-COOL-T = 75.0
* 390 * ZONE-TYPE = CONDITIONED
* 391 * THERMOSTAT-TYPE = PROPORTIONAL
* 392 * BASEBOARD-CTRL = THERMOSTATIC ASSIGNED-CFM = 6950.
* 393 * OUTSIDE-AIR-CFM = 6950. SIZING-OPTION = FROM-LOADS ..
* 394 *
* 395 *
* 396 *
* 397 *
* 398 * $ SYSTEM DESCRIPTION
* 399 *
* 400 * AHU_1-14 =SYSTEM SYSTEM-TYPE = SZRH
* 401 * MAX-SUPPLY-T = 120.0 MIN-SUPPLY-T = 50.0
* 402 * PREHEAT-T = 68.0 MIN-HUMIDITY = 30.0
* 403 * ECONO-LIMIT-T = 65.0 ECONO-LOW-LIMIT = 55.0
* 404 * SUPPLY-CFM = 14850. RETURN-CFM = 9100.
* 405 * RATED-CFM = 14850. MIN-OUTSIDE-AIR = 0.39
* 406 * MIN-AIR-SCH = MIN OA 1 FAN-SCHEDULE = FAN_WSB
* 407 * SUPPLY-DELTA-T = 2.4 SUPPLY-KW = 0.00078
* 408 * MOTOR-PLACEMENT = OUTSIDE-AIRFLOW
* 409 * NIGHT-CYCLE-CTRL = CYCLE-ON-ANY NIGHT-VENT-DT = 0.0
* 410 * MIN-CFM-RATIO = 1.0 REHEAT-DELTA-T = 4.
* 411 * COOLING-CAPACITY = 484089. COOL-SH-CAP = 373406.
* 412 * HEATING-CAPACITY = -403140. FURNACE-AUX = 0.
* 413 * PREHEAT-SOURCE = HOT-WATER
* 414 * ZONE-NAMES = (BASEMENT) ..
* 415 *
* 416 * AHU_15&16 =SYSTEM SYSTEM-TYPE = HVSYS
* 417 * MAX-SUPPLY-T = 120.0 MIN-HUMIDITY = 30.0
* 418 * ECONO-LIMIT-T = 65.0 ECONO-LOW-LIMIT = 55.0
* 419 * HEAT-CONTROL = COLDEST SUPPLY-CFM = 4160.
* 420 * RATED-CFM = 4160. MIN-OUTSIDE-AIR = 1.0
* 421 * MIN-AIR-SCH = MIN OA2 FAN-SCHEDULE = FAN_WSB
* 422 * SUPPLY-DELTA-T = 2.4 SUPPLY-KW = 0.00078
* 423 * MOTOR-PLACEMENT = OUTSIDE-AIRFLOW
* 424 * NIGHT-CYCLE-CTRL = CYCLE-ON-ANY NIGHT-VENT-DT = 0.0
* 425 * HEATING-CAPACITY = -336960. FURNACE-AUX = 0.
* 426 * ZONE-NAMES = (1ST_FLOOR) ..
* 427 *
* 428 * AHU_17&18 =SYSTEM SYSTEM-TYPE = HVSYS
* 429 * MAX-SUPPLY-T = 120.0 MIN-HUMIDITY = 30.0
* 430 * ECONO-LIMIT-T = 65.0 ECONO-LOW-LIMIT = 55.0
* 431 * HEAT-CONTROL = COLDEST SUPPLY-CFM = 4485.
* 432 * RATED-CFM = 4485. MIN-OUTSIDE-AIR = 1.0
* 433 * MIN-AIR-SCH = MIN OA2 FAN-SCHEDULE = FAN_WSB
* 434 * SUPPLY-DELTA-T = 2.4 SUPPLY-KW = 0.00078
* 435 * NIGHT-CYCLE-CTRL = CYCLE-ON-ANY NIGHT-VENT-DT = 0.0
* 436 * HEATING-CAPACITY = -363680. FURNACE-AUX = 0.
* 437 * ZONE-NAMES = (2ND_FLOOR) ..
* 438 *
* 439 * SF_1&2 =SYSTEM SYSTEM-TYPE = HVSYS
* 440 * MAX-SUPPLY-T = 120.0 HEATING-SCHEDULE = FULL_OFF
* 441 * MIN-HUMIDITY = 30.0 ECONO-LIMIT-T = 65.0
* 442 * ECONO-LOW-LIMIT = 55.0 SUPPLY-CFM = 46795.
* 443 * RATED-CFM = 46795. MIN-OUTSIDE-AIR = 1.0
* 444 * FAN-SCHEDULE = SF_WSB SUPPLY-DELTA-T = 2.4
* 445 * SUPPLY-KW = 0.0006
* 446 * MOTOR-PLACEMENT = OUTSIDE-AIRFLOW
* 447 * NIGHT-CYCLE-CTRL = CYCLE-ON-ANY NIGHT-VENT-DT = 0.0
* 448 * FURNACE-AUX = 0.
* 449 * ZONE-NAMES = (1ST_FLR_B) ..
* 450 *
* 451 * SF_3&4 =SYSTEM SYSTEM-TYPE = HVSYS
* 452 * MAX-SUPPLY-T = 120.0 HEATING-SCHEDULE = FULL_OFF
* 453 * MIN-HUMIDITY = 30.0 ECONO-LIMIT-T = 65.0
* 454 * ECONO-LOW-LIMIT = 55.0 SUPPLY-CFM = 52996.
* 455 * RATED-CFM = 52996. MIN-OUTSIDE-AIR = 1.0
* 456 * FAN-SCHEDULE = SF_WSB SUPPLY-DELTA-T = 2.4
* 457 * SUPPLY-KW = 0.0006

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* 456 *      MOTOR-PLACEMENT = OUTSIDE-AIRFLOW
* 457 *      NIGHT-CYCLE-CTRL = CYCLE-ON-ANY  NIGHT-VENT-DT = 0.0
* 458 *      FURNACE-AUX = 0.
* 459 *      ZONE-NAMES = (2ND_FLR_B)  ..
* 460 *
* 461 * SF_31-33  =SYSTEM      SYSTEM-TYPE = HVSYS
* 462 *      MAX-SUPPLY-T = 120.0  HEATING-SCHEDULE = FULL_OFF
* 463 *      MIN-HUMIDITY = 30.0  ECONO-LIMIT-T = 65.0
* 464 *      ECONO-LOW-LIMIT = 55.0  SUPPLY-CFM = 6950.
* 465 *      RATED-CFM = 6950.  MIN-OUTSIDE-AIR = 1.0
* 466 *      FAN-SCHEDULE = SF WSB  SUPPLY-DELTA-T = 2.4
* 467 *      SUPPLY-KW = 0.0006
* 468 *      MOTOR-PLACEMENT = OUTSIDE-AIRFLOW
* 469 *      NIGHT-CYCLE-CTRL = CYCLE-ON-ANY  NIGHT-VENT-DT = 0.0
* 470 *      FURNACE-AUX = 0.
* 471 *      ZONE-NAMES = (BASEMENT_B)  ..
* 472 *
* 473 * END  ..
* 474 * COMPUTE SYSTEMS  ..
* 475 *
* 476 * INPUT PLANT  ..

```

PDL PROCESSOR INPUT DATA

3/26/1995 12:55:55 PDL RUN 1

```

* 477 *
* 478 *
* 479 *
* 480 * $-----$
* 481 * $ E Z - D O E   P L A N T S   I N P U T $
* 482 * $-----$
* 483 *
* 484 * $ GENERAL PROJECT DATA
* 485 *
* 486 * TITLE LINE-1 * EMC ENGINEERS INC. *
* 487 * LINE-2 *EZDOE - ELITE SOFTWARE DEVELOPMENT INC*
* 488 * LINE-3 * DENVER, CO 80227 *
* 489 *
* 490 * LINE-4 *DIV CMD/CNTL BLDG *
* 491 * LINE-5 *SETBACK,ECON,DDC,&FORCED VENTILATION * ..
* 492 *
* 493 * ABORT ERRORS ..
* 494 * DIAGNOSTIC WARNINGS ..
* 495 * PLANT-REPORT SUMMARY=(PS-A,PS-B,BEPS)
* 496 * ..
* 497 *
* 498 * $ SCHEDULES
* 499 *
* 500 * FULL_ON_D =DAY-SCHEDULE (1,24) (1.) ..
* 501 *
* 502 * FULL_ON_W =WEEK-SCHEDULE (ALL) FULL_ON_D ..
* 503 *
* 504 *
* 505 * FULL_ON =SCHEDULE THRU DEC 31 FULL_ON_W ..
* 506 *
* 507 *
* 508 *
* 509 * $ EQUIPMENT DESCRIPTION
* 510 *
* 511 * HE1&2 =PLANT-EQUIPMENT TYPE = HTANK-STORAGE
* 512 * SIZE = 2.5 ..
* 513 *
* 514 * CH1&2 =PLANT-EQUIPMENT TYPE = OPEN-REC-CHLR
* 515 * SIZE = 0.4 INSTALLED-NUMBER = 2
* 516 * MAX-NUMBER-AVAIL = 2 ..
* 517 *
* 518 * PLANT-PARAMETERS OPEN-REC-COND-TYPE = AIR CHILL-WTR-T = 45.
* 519 * CCIRC-HEAD = 45.0 HCIRC-HEAD = 55.0 ..
* 520 *
* 521 *
* 522 * ENERGY-RESOURCE RESOURCE = STEAM SOURCE-SITE-EFF = 1.000 ..
* 523 * ENERGY-RESOURCE RESOURCE = ELECTRICITY ..
* 524 *
* 525 * ENERGY-STORAGE HEAT-STORE-RATE = 2.48 HEAT-SUPPLY-RATE = 2.48
* 526 * HTANK-BASE-T = 212.0 HEAT-STORE-SCH = FULL_ON ..
* 527 *
* 528 * HEAT-RECOVERY
* 529 * SUPPLY-1 = (HTANK-STORAGE)
* 530 * DEMAND-1 = (SPACE-HEAT,PROCESS-HEAT) ..
* 531 *
* 532 *
* 533 *
* 534 * END ..
* 535 * COMPUTE PLANT ..
* 536 * STOP ..

```

ENERGY TYPE IN SITE MBTU-	STEAM	ELECTRICITY	RECOVERED
CATEGORY OF USE			
SPACE HEAT	2,617.81	0.00	
SPACE COOL	0.00	0.01	
HVAC AUX	0.00	397.56	
DOM HOT WTR	0.00	0.00	
AUX SOLAR	0.00	0.00	
LIGHTS	0.00	923.33	
VERT TRANS	0.00	0.00	
MISC EQUIP	0.00	16.26	
	-----	-----	
TOTAL	2,617.81	1,337.17	

TOTAL SITE ENERGY 3954.98 MBTU 49.3 KBTU/SQFT-YR GROSS-AREA 49.3 KBTU/SQFT-YR NET-AREA  
 TOTAL SOURCE ENERGY 6633.33 MBTU 82.6 KBTU/SQFT-YR GROSS-AREA 82.6 KBTU/SQFT-YR NET-AREA

PERCENT OF HOURS ANY SYSTEM ZONE OUTSIDE OF THROTTLING RANGE = 18.7  
 PERCENT OF HOURS ANY PLANT LOAD NOT SATISFIED = 0.0

NOTE ELECTRICITY AND/OR FUEL USED TO GENERATE ELECTRICITY IS APPORTIONED BASED  
 ON THE YEARLY DEMAND. ALL OTHER ENERGY TYPES ARE APPORTIONED HOURLY.

EMC ENGINEERS INC. 80227 EDOE - ELITE SOFTWARE DEVELOPMENT INC  
 DENVER, CO DIV CMD/CNTL BLDG  
 REPORT- PS-B MONTHLY PEAK AND TOTAL ENERGY USE

DOE-2.1D 3/26/1995 12:55:55 PDL RUN 1  
 SETBACK, ECON, DDC, & FORCED VENTILATION  
 WEATHER FILE- MASSENA, NY

MO	UTILITY-	STEAM	ELECTRICITY
	TOTAL (MBTU)	586.206	95.498
JAN	PEAK (KBTU)	2898.635	384.887
	DY/HR	5/12	31/16
	TOTAL (MBTU)	420.122	89.800
FEB	PEAK (KBTU)	2538.742	384.887
	DY/HR	8/ 6	28/16
	TOTAL (MBTU)	430.526	103.099
MAR	PEAK (KBTU)	2696.129	384.887
	DY/HR	9/ 6	31/16
	TOTAL (MBTU)	193.961	94.125
APR	PEAK (KBTU)	2265.456	384.887
	DY/HR	1/ 6	29/16
	TOTAL (MBTU)	96.303	98.530
MAY	PEAK (KBTU)	2087.179	384.887
	DY/HR	2/ 6	31/10
	TOTAL (MBTU)	57.338	155.345
JUN	PEAK (KBTU)	1903.542	604.116
	DY/HR	8/ 6	16/10
	TOTAL (MBTU)	4.062	147.177
JUL	PEAK (KBTU)	441.110	603.580
	DY/HR	11/ 6	4/10
	TOTAL (MBTU)	28.657	161.643
AUG	PEAK (KBTU)	1088.489	603.563
	DY/HR	25/ 8	31/10
	TOTAL (MBTU)	21.848	100.462
SEP	PEAK (KBTU)	858.008	593.777
	DY/HR	19/ 6	1/16
	TOTAL (MBTU)	114.685	94.097
OCT	PEAK (KBTU)	2061.009	384.887
	DY/HR	31/ 6	31/16
	TOTAL (MBTU)	253.997	98.607
NOV	PEAK (KBTU)	2378.067	384.887
	DY/HR	28/ 6	30/16
	TOTAL (MBTU)	410.103	98.783
DEC	PEAK (KBTU)	2538.289	384.887
	DY/HR	28/ 6	30/16
	ONE YEAR	2617.808	1337.168
	USE/PEAK	2898.635	604.116

**COMPUTER SIMULATIONS**

BUILDING 10205





**COMPUTER SIMULATIONS**  
**BUILDING 10205**

BASE RUN

# LDL PROCESSOR INPUT DATA

3/18/1995 14:10:23 LDL RUN 1

```

* 3 *
* 4 *
* 5 *      $-----$
* 6 *      $EZ-DOE LOADS INPUT$
* 7 *      $-----$
* 8 *
* 9 *      $ GENERAL PROJECT DATA
* 10 *
* 11 * TITLE LINE-1 * EMC ENGINEERS INC. *
* 12 * LINE-2 *EZDOE - ELITE SOFTWARE DEVELOPMENT INC*
* 13 * LINE-3 * DENVER, CO 80227 *
* 14 *
* 15 * LINE-4 *BUILDING 10205, DENTAL CLINIC *
* 16 * LINE-5 *BASE MODEL *..
* 17 *
* 18 * ABORT ERRORS ..
* 19 * DIAGNOSTIC WARNINGS ..
* 20 * LOADS-REPORT SUMMARY=(LS-C,LS-D) ..
* 21 * BUILDING-LOCATION X-REF = 0.0
* 22 * Y-REF = 0.0 ..
* 23 * RUN-PERIOD JAN 1 1994 THRU DEC 31 1994 ..
* 24 *
* 25 *
* 26 *      $ SCHEDULES
* 27 *
* 28 * PEOPLE_D =DAY-SCHEDULE (1,5) (0.)
* 29 *      (6,7) (0.1,0.5)
* 30 *      (8,13) (1.)
* 31 *      (14,17) (0.8,0.5,0.4,0.8)
* 32 *      (18,19) (0.4,0.1)
* 33 *      (20,24) (0.) ..
* 34 *
* 35 * LIGHT_D =DAY-SCHEDULE (1,5) (0.05)
* 36 *      (6,8) (0.4,0.5,0.4)
* 37 *      (9,11) (0.3)
* 38 *      (12,13) (0.4)
* 39 *      (14,15) (0.3)
* 40 *      (16,18) (0.5,0.7,0.5)
* 41 *      (19,24) (0.05) ..
* 42 *
* 43 * LIGHT_SAT =DAY-SCHEDULE (1,11) (0.05)
* 44 *      (12) (0.4)
* 45 *      (13,14) (0.9)

```

\* 46 \* (15) (0.55)  
 \* 47 \* (16,19) (0.4)  
 \* 48 \* (20,24) (0.05) ..  
 \* 49 \*  
 \* 50 \* EQUIP\_D =DAY-SCHEDULE (1,5) (0.)  
 \* 51 \* (6,17) (0.33)  
 \* 52 \* (18,24) (0.) ..  
 \* 53 \*  
 \* 54 \* FULL\_ON\_D =DAY-SCHEDULE (1,24) (1.) ..  
 \* 55 \*  
 \* 56 \* FULL\_OFF\_D =DAY-SCHEDULE (1,24) (0.) ..  
 \* 57 \*  
 \* 58 \*  
 \* 59 \* PEOPLE\_W =WEEK-SCHEDULE (WD) PEOPLE\_D  
 \* 60 \* (WEH) FULL\_OFF\_D ..  
 \* 61 \*  
 \* 62 \* FULL\_ON\_W =WEEK-SCHEDULE (ALL) FULL\_ON\_D ..  
 \* 63 \*  
 \* 64 \* FULL\_OFF\_W =WEEK-SCHEDULE (ALL) FULL\_OFF\_D ..  
 \* 65 \*  
 \* 66 \* LIGHT\_ON\_W =WEEK-SCHEDULE (WD) LIGHT\_D  
 \* 67 \* (WEH) FULL\_OFF\_D ..  
 \* 68 \*  
 \* 69 \* EQUIP\_W =WEEK-SCHEDULE (WD) EQUIP\_D  
 \* 70 \* (WEH) FULL\_OFF\_D ..  
 \* 71 \*  
 \* 72 \*  
 \* 73 \* \$ FULL ON SCHEDULE  
 \* 74 \* FULL\_ON =SCHEDULE THRU DEC 31 FULL\_ON\_W ..  
 \* 75 \*  
 \* 76 \* \$ FULL OFF SCHEDULE  
 \* 77 \* FULL\_OFF =SCHEDULE THRU DEC 31 FULL\_OFF\_W ..  
 \* 78 \*  
 \* 79 \* \$ OCCUPANCY SCHEDULE  
 \* 80 \* PEOPLE\_SCD =SCHEDULE THRU DEC 31 PEOPLE\_W ..  
 \* 81 \*  
 \* 82 \* \$ LIGHTING SCHEDULE  
 \* 83 \* LIGHT\_SCHD =SCHEDULE THRU DEC 31 LIGHT\_ON\_W ..  
 \* 84 \*  
 \* 85 \* \$ VACUUM SYST & WASTE SYS  
 \* 86 \* EQUIP\_SCHD =SCHEDULE THRU DEC 31 EQUIP\_W ..  
 \* 87 \*  
 \* 88 \*  
 \* 89 \*  
 \* 90 \* \$ CONSTRUCTION TYPES  
 \* 91 \*  
 \* 92 \*  
 \* 93 \*  
 \* 94 \* FLOORCON =CONSTRUCTION U-VALUE = 0.100 ..  
 \* 95 \* ROOF\_CON =CONSTRUCTION U-VALUE = 0.050 ..

\* 96 \* WALL\_CON = CONSTRUCTION U-VALUE = 0.200 ..  
 \* 97 \* DOOR\_CON = CONSTRUCTION U-VALUE = 1.000 ..  
 \* 98 \*  
 \* 99 \* G\_TYPE1 = GLASS-TYPE GLASS-TYPE-CODE = 3  
 \* 100 \* PANES = 1  
 \* 101 \* GLASS-CONDUCTANCE = 0.900 ..  
 \* 102 \*  
 \* 103 \*  
 \* 104 \*  
 \* 105 \*  
 \* 106 \* \$ SPACE DESCRIPTION  
 \* 107 \*  
 \* 108 \* WHOLE\_BLDG = SPACE AREA = 19244.0 VOLUME = 173196.0  
 \* 109 \* AZIMUTH = 315 TEMPERATURE = (72.5)  
 \* 110 \* ZONE-TYPE = CONDITIONED PEOPLE-SCHEDULE = PEOPLE\_SCD  
 \* 111 \* NUMBER-OF-PEOPLE = 100.0 PEOPLE-HEAT-GAIN = 500.0  
 \* 112 \* PEOPLE-HG-SENS = 1.0 LIGHTING-TYPE = REC-FLUOR-RV  
 \* 113 \* LIGHTING-KW = 40.08 LIGHTING-SCHEDULE = LIGHT\_SCHD  
 \* 114 \* EQUIP-SCHEDULE = EQUIP\_SCHD EQUIPMENT-KW = 103.0  
 \* 115 \* EQUIP-SENSIBLE = 0.0 SOURCE-SCHEDULE = FULL\_ON  
 \* 116 \* SOURCE-TYPE = HOT-WATER SOURCE-BTU/HR = 18151.0  
 \* 117 \* SOURCE-SENSIBLE = 0.0 INF-METHOD = AIR-CHANGE  
 \* 118 \* AIR-CHANGES/HR = 0.25 INF-SCHEDULE = FULL\_ON ..  
 \* 119 \*  
 \* 120 \* U-W HEIGHT = 121.0 WIDTH = 159.0 CONS = FLOORCON  
 \* 121 \* AZIMUTH = 315 ..  
 \* 122 \*  
 \* 123 \* ROOF HEIGHT = 121.0 WIDTH = 159.0 CONS = ROOF\_CON  
 \* 124 \* AZIMUTH = 315 TILT = 0 ..  
 \* 125 \*  
 \* 126 \* WINDOW HEIGHT = 24.0 WIDTH = 6.0 G-T = G\_TYPE1  
 \* 127 \* MULTIPLIER = 4.0 ..  
 \* 128 \*  
 \* 129 \* E-W HEIGHT = 9.0 WIDTH = 129.5 CONS = WALL\_CON  
 \* 130 \* AZIMUTH = 45 ..  
 \* 131 \*  
 \* 132 \* WINDOW HEIGHT = 4.0 WIDTH = 6.0 G-T = G\_TYPE1  
 \* 133 \* MULTIPLIER = 2.0 ..  
 \* 134 \*  
 \* 135 \* WINDOW HEIGHT = 4.0 WIDTH = 4.0 G-T = G\_TYPE1  
 \* 136 \* MULTIPLIER = 4.0 ..  
 \* 137 \*  
 \* 138 \* WINDOW HEIGHT = 7.5 WIDTH = 3.0 G-T = G\_TYPE1  
 \* 139 \* MULTIPLIER = 2.0 ..  
 \* 140 \*  
 \* 141 \* WINDOW HEIGHT = 4.0 WIDTH = 27.0 G-T = G\_TYPE1 ..  
 \* 142 \*  
 \* 143 \* E-W HEIGHT = 9.0 WIDTH = 159.0 CONS = WALL\_CON  
 \* 144 \* AZIMUTH = 135 ..  
 \* 145 \*

```

* 146 *      WINDOW HEIGHT = 4.0 WIDTH = 4.0 G-T = G_TYPE1
* 147 *      MULTIPLIER = 2.0 ..
* 148 *
* 149 *      WINDOW HEIGHT = 4.0 WIDTH = 15.0 G-T = G_TYPE1
* 150 *      MULTIPLIER = 3.0 ..
* 151 *
* 152 *      WINDOW HEIGHT = 10.5 WIDTH = 10.5 G-T = G_TYPE1 ..
* 153 *
* 154 *      E-W  HEIGHT = 9.0 WIDTH = 129.5 CONS = WALL_CON
* 155 *      AZIMUTH = 225 ..
* 156 *
* 157 *      WINDOW HEIGHT = 4.0 WIDTH = 27.0 G-T = G_TYPE1 ..
* 158 *
* 159 *      WINDOW HEIGHT = 4.0 WIDTH = 4.0 G-T = G_TYPE1 ..
* 160 *
* 161 *      WINDOW HEIGHT = 7.5 WIDTH = 3.0 G-T = G_TYPE1
* 162 *      MULTIPLIER = 2.0 ..
* 163 *
* 164 *      E-W  HEIGHT = 9.0 WIDTH = 159.0 CONS = WALL_CON
* 165 *      AZIMUTH = 315 ..
* 166 *
* 167 *      WINDOW HEIGHT = 7.5 WIDTH = 7.5 G-T = G_TYPE1 ..
* 168 *
* 169 *      WINDOW HEIGHT = 4.0 WIDTH = 4.0 G-T = G_TYPE1 ..
* 170 *
* 171 *      WINDOW HEIGHT = 4.0 WIDTH = 6.0 G-T = G_TYPE1 ..
* 172 *
* 173 *
* 174 * END ..
* 175 * COMPUTE LOADS ..
* 176 *
* 177 * INPUT SYSTEMS ..

```

# SDL PROCESSOR INPUT DATA

3/18/1995 14:10:23 SDL RUN 1

```

* 178 *
* 179 *
* 180 *      $-----$
* 181 *      $EZ-DOE SYSTEMS INPUT$
* 182 *      $-----$
* 183 *
* 184 *      $ GENERAL PROJECT DATA
* 185 *
* 186 * TITLE LINE-1 *  EMC  ENGINEERS  INC.  *
* 187 *  LINE-2 *EZDOE - ELITE SOFTWARE DEVELOPMENT INC*

```

\* 188 \*    LINE-3 \*    DENVER,    CO    80227    \*  
 \* 189 \*  
 \* 190 \*    LINE-4 \*BUILDING 10205, DENTAL CLINIC    \*  
 \* 191 \*    LINE-5 \*BASE MODEL    \*..  
 \* 192 \* ABORT        ERRORS ..  
 \* 193 \* DIAGNOSTIC       WARNINGS ..  
 \* 194 \* SYSTEMS-REPORT    SUMMARY=(SS-A,SS-C,SS-H,SS-J,SS-K,SS-O) ..  
 \* 195 \*  
 \* 196 \*                \$ SCHEDULES  
 \* 197 \*  
 \* 198 \* FULL\_ON\_D =DAY-SCHEDULE (1,24) (1.) ..  
 \* 199 \* FULL\_OFF\_D =DAY-SCHEDULE (1,24) (1.) ..  
 \* 200 \* HEAT\_70\_D =DAY-SCHEDULE (1,24) (70.) ..  
 \* 201 \* COOL\_72\_D =DAY-SCHEDULE (1,24) (72.) ..  
 \* 202 \*  
 \* 203 \* FULL\_ON\_W =WEEK-SCHEDULE (ALL) FULL\_ON\_D ..  
 \* 204 \*  
 \* 205 \* FULL\_OFF\_W =WEEK-SCHEDULE (ALL) FULL\_OFF\_D ..  
 \* 206 \*  
 \* 207 \* HEAT\_70\_W =WEEK-SCHEDULE (ALL) HEAT\_70\_D ..  
 \* 208 \*  
 \* 209 \* COOL\_72\_W =WEEK-SCHEDULE (ALL) COOL\_72\_D ..  
 \* 210 \*  
 \* 211 \*  
 \* 212 \* \$ FULL\_ON SCHEDULE  
 \* 213 \* FULL\_ON    =SCHEDULE THRU DEC 31 FULL\_ON\_W ..  
 \* 214 \*  
 \* 215 \* \$ FULL OFF SCHEDULE  
 \* 216 \* FULL\_OFF    =SCHEDULE THRU DEC 31 FULL\_OFF\_W ..  
 \* 217 \*  
 \* 218 \* \$ HEATING SCHEDULE  
 \* 219 \* HEAT\_70    =SCHEDULE THRU DEC 31 HEAT\_70\_W ..  
 \* 220 \*  
 \* 221 \* \$ COOLING SCHEDULE 72 F  
 \* 222 \* COOL\_72\_Y =SCHEDULE THRU DEC 31 COOL\_72\_W ..  
 \* 223 \*  
 \* 224 \*  
 \* 225 \*  
 \* 226 \*                \$ ZONE DESCRIPTION  
 \* 227 \*  
 \* 228 \* WHOLE\_BLDG =ZONE    DESIGN-HEAT-T = 70.0 DESIGN-COOL-T = 72.0  
 \* 229 \*                HEAT-TEMP-SCH = HEAT\_70 COOL-TEMP-SCH = COOL\_72\_Y  
 \* 230 \*                ZONE-TYPE = CONDITIONED  
 \* 231 \*                THERMOSTAT-TYPE = PROPORTIONAL THROTTLING-RANGE = 1.0  
 \* 232 \*                BASEBOARD-CTRL = THERMOSTATIC  
 \* 233 \*                BASEBOARD-RATING = -87750000. ASSIGNED-CFM = 17520.  
 \* 234 \*                OUTSIDE-AIR-CFM = 3180. SIZING-OPTION = FROM-LOADS  
 \* 235 \*                RATED-CFM = 17520.0 MIN-CFM-RATIO = 0.49  
 \* 236 \*                EXHAUST-CFM = 3180.0 EXHAUST-STATIC = 1.5  
 \* 237 \*                HEATING-CAPACITY = -400800.0

```

* 238 *          COOLING-CAPACITY = 599000.0 ..
* 239 *
* 240 *
* 241 *          $ SYSTEM DESCRIPTION
* 242 *
* 243 * AHU_1  =SYSTEM  SYSTEM-TYPE = PMZS
* 244 *          MAX-SUPPLY-T = 135.0 MIN-SUPPLY-T = 57.0
* 245 *          HEATING-SCHEDULE = FULL_ON
* 246 *          COOLING-SCHEDULE = FULL_ON HEAT-SET-T = 135.0
* 247 *          MIN-HUMIDITY = 30.0 ECONO-LIMIT-T = 65.0
* 248 *          ECONO-LOW-LIMIT = 55.0 COOL-SET-T = 57.0
* 249 *          SUPPLY-CFM = 17520. RETURN-CFM = 14340.
* 250 *          RATED-CFM = 17520. MIN-OUTSIDE-AIR = 0.18
* 251 *          SUPPLY-STATIC = 4.1 SUPPLY-EFF = 0.6
* 252 *          SUPPLY-MECH-EFF= 0.7
* 253 *          MOTOR-PLACEMENT = OUTSIDE-AIRFLOW
* 254 *          NIGHT-CYCLE-CTRL = STAY-OFF RETURN-STATIC = 1.0
* 255 *          RETURN-EFF = 0.7 MIN-CFM-RATIO = 1.0
* 256 *          COOLING-CAPACITY = 599000. COOL-SH-CAP = 599000.
* 257 *          HEATING-CAPACITY = -274500. FURNACE-AUX = 0.
* 258 *          CRANKCASE-MAX-T = 0. OUTSIDE-FAN-T = 45.
* 259 *          HEAT-SOURCE = HOT-WATER
* 260 *          BASEBOARD-SOURCE = HOT-WATER
* 261 *          ZONE-NAMES = (WHOLE_BLDG) ..
* 262 *
* 263 * END ..
* 264 * COMPUTE SYSTEMS ..
* 265 *
* 266 * INPUT PLANT ..

```

# PDL PROCESSOR INPUT DATA

3/18/1995 14:10:23 PDL RUN 1

```

* 267 *
* 268 *
* 269 *          $-----$
* 270 *          $EZ-DOE PLANTS INPUT$
* 271 *          $-----$
* 272 *
* 273 *          $ GENERAL PROJECT DATA
* 274 *
* 275 * TITLE LINE-1 * EMC ENGINEERS INC. *
* 276 * LINE-2 *EZDOE - ELITE SOFTWARE DEVELOPMENT INC*
* 277 * LINE-3 * DENVER, CO 80227 *
* 278 *
* 279 * LINE-4 *BUILDING 10205, DENTAL CLINIC *

```



```

*280 *   LINE-5 *BASE MODEL          * ..
*281 *
*282 * ABORT      ERRORS ..
*283 * DIAGNOSTIC  WARNINGS ..
*284 * PLANT-REPORT  SUMMARY=(PS-A,PS-B,BEPS)
*285 * ..
*286 *
*287 *           $ SCHEDULES
*288 *
*289 * FULL_ON_D =DAY-SCHEDULE (1,24) (1.) ..
*290 *
*291 *
*292 * FULL_ON_W =WEEK-SCHEDULE (ALL) FULL_ON_D ..
*293 *
*294 *
*295 * $ FULL ON SCHEDULE
*296 * FULL_ON =SCHEDULE THRU DEC 31 FULL_ON_W ..
*297 *
*298 *
*299 *
*300 *           $ EQUIPMENT DESCRIPTION
*301 *
*302 * HX      =PLANT-EQUIPMENT TYPE = HTANK-STORAGE
*303 *           SIZE = 0.9 ..
*304 *
*305 * PLANT-PARAMETERS  OPEN-REC-COND-TYPE = AIR OPEN-CENT-COND-PWR = 0.13
*306 *           OPEN-REC-COND-PWR = 0.19 HCIRC-HEAD = 25.0 ..
*307 *
*308 *
*309 * ENERGY-RESOURCE  RESOURCE = ELECTRICITY ..
*310 * ENERGY-RESOURCE  RESOURCE = STEAM SOURCE-SITE-EFF = 1.000 ..
*311 *
*312 * ENERGY-STORAGE  HEAT-STORE-RATE = 0.94 HEAT-SUPPLY-RATE = 0.94
*313 *           HTANK-BASE-T = 195.0 HTANK-T-RANGE = 50.0
*314 *           HEAT-STORE-SCH = FULL_ON ..
*315 *
*316 *   HEAT-RECOVERY
*317 *       SUPPLY-1 = (HTANK-STORAGE)
*318 *       DEMAND-1 = (SPACE-HEAT,PROCESS-HEAT) ..
*319 *
*320 *
*321 *
*322 * END ..
*323 * COMPUTE PLANT ..
*324 * STOP ..

```

ENERGY TYPE IN SITE MBTU-	STEAM	ELECTRICITY	RECOVERED
CATEGORY OF USE			
SPACE HEAT	2048.77	169.79	0.00
SPACE COOL	0.00	195.90	0.00
HVAC AUX	0.00	525.35	0.00
DOM HOT WTR	159.00	0.00	0.00
AUX SOLAR	0.00	0.00	0.00
LIGHTS	0.00	201.66	0.00
VERT TRANS	0.00	0.00	0.00
MISC EQUIP	0.00	350.79	0.00
	-----	-----	-----
TOTAL	2207.77	1443.49	0.00

TOTAL SITE ENERGY 3651.26 MBTU 189.7 KBTU/SQFT-YR GROSS-AREA 189.7 KBTU/SQFT-YR NET-AREA  
 TOTAL SOURCE ENERGY 6542.57 MBTU 340.0 KBTU/SQFT-YR GROSS-AREA 340.0 KBTU/SQFT-YR NET-AREA

PERCENT OF HOURS ANY SYSTEM ZONE OUTSIDE OF THROTTLING RANGE = 0.0  
 PERCENT OF HOURS ANY PLANT LOAD NOT SATISFIED = 0.0

NOTE ELECTRICITY AND/OR FUEL USED TO GENERATE ELECTRICITY IS APPORTIONED BASED  
 ON THE YEARLY DEMAND. ALL OTHER ENERGY TYPES ARE APPORTIONED HOURLY.

MO	UTILITY- STEAM	ELECTRICITY
JAN	TOTAL(MBTU)	336.542
	PEAK(KBTU)	822.805
	DY/HR	5/ 9
FEB	TOTAL(MBTU)	262.98
	PEAK(KBTU)	582.225
	DY/HR	5/ 7
MAR	TOTAL(MBTU)	258.772
	PEAK(KBTU)	573.21
	DY/HR	9/ 5
APR	TOTAL(MBTU)	184.665
	PEAK(KBTU)	423.819
	DY/HR	3/ 7
MAY	TOTAL(MBTU)	143.682
	PEAK(KBTU)	353.804
	DY/HR	3/ 5
JUN	TOTAL(MBTU)	92.425
	PEAK(KBTU)	268.729
	DY/HR	8/ 5
JUL	TOTAL(MBTU)	79.569
	PEAK(KBTU)	269.204
	DY/HR	25/ 5
AUG	TOTAL(MBTU)	86.344
	PEAK(KBTU)	259.248
	DY/HR	22/ 5
SEP	TOTAL(MBTU)	110.163
	PEAK(KBTU)	299.282
	DY/HR	24/ 6
OCT	TOTAL(MBTU)	162.295
	PEAK(KBTU)	344.586
	DY/HR	25/ 5
NOV	TOTAL(MBTU)	210.826
	PEAK(KBTU)	477.454
	DY/HR	27/ 7

DEC	TOTAL(MBTU)	279.505	125.515
	PEAK(KBTU)	558.089	329.483
	DY/HR	3/ 9	30/17
	ONE YEAR	2207.768	1443.491
	USE/PEAK	822.805	432.25

**COMPUTER SIMULATIONS**  
**BUILDING 10205**

**RUN 1 - SCHEDULE START/STOP AND NIGHT SETBACK**

# INPUT LOADS ..

```

$-----$
$ EZ - DOE LOADS INPUT $
$-----$

```

## \$ GENERAL PROJECT DATA

```

TITLE  LINE-1 *   EMC   ENGINEERS   INC.   *
        LINE-2 *EZDOE - ELITE SOFTWARE DEVELOPMENT INC*
        LINE-3 *   DENVER,   CO   80227   *
        LINE-4 *BUILDING 10205, DENTAL CLINIC *
        LINE-5 *MODEL WITH SETBACK, 50 F   * ..

```

```

ABORT      ERRORS ..
DIAGNOSTIC WARNINGS ..
LOADS-REPORT SUMMARY=(LS-C,LS-D) ..
BUILDING-LOCATION X-REF = 0.0
Y-REF = 0.0 ..
RUN-PERIOD  JAN 1 1994 THRU DEC 31 1994 ..

```

## \$ SCHEDULES

```

PEOPLE_D   =DAY-SCHEDULE (1,5) (0.)
              (6,7) (0.1,0.5)
              (8,13) (1.)
              (14,17) (0.8,0.5,0.4,0.8)
              (18,19) (0.4,0.1)
              (20,24) (0.) ..

```

```

LIGHT_D     =DAY-SCHEDULE (1,5) (0.05)
              (6,8) (0.4,0.5,0.4)
              (9,11) (0.3)
              (12,13) (0.4)
              (14,15) (0.3)
              (16,18) (0.5,0.7,0.5)
              (19,24) (0.05) ..

```

```

LIGHT_SAT   =DAY-SCHEDULE (1,11) (0.05)
              (12) (0.4)
              (13,14) (0.9)
              (15) (0.55)
              (16,19) (0.4)
              (20,24) (0.05) ..

```

```

EQUIP_D     =DAY-SCHEDULE (1,5) (0.)
              (6,17) (0.33)
              (18,24) (0.) ..

```

```

FULL_ON_D   =DAY-SCHEDULE (1,24) (1.) ..

```

```

FULL_OFF_D  =DAY-SCHEDULE (1,24) (0.) ..

```

```

PEOPLE_W    =WEEK-SCHEDULE (WD) PEOPLE_D
                          (WEH) FULL_OFF_D ..

```

```

FULL_ON_W   =WEEK-SCHEDULE (ALL) FULL_ON_D ..

```

```

FULL_OFF_W  =WEEK-SCHEDULE (ALL) FULL_OFF_D ..

```

```

LIGHT_ON_W  =WEEK-SCHEDULE (WD) LIGHT_D
                          (WEH) FULL_OFF_D ..

```

```

EQUIP_W     =WEEK-SCHEDULE (WD) EQUIP_D
                          (WEH) FULL_OFF_D ..

```

```

$ FULL ON SCHEDULE
FULL_ON     =SCHEDULE THRU DEC 31 FULL_ON_W ..

```

```

$ FULL OFF SCHEDULE
FULL_OFF    =SCHEDULE THRU DEC 31 FULL_OFF_W ..

```

```

$ OCCUPANCY SCHEDULE
PEOPLE_SCD =SCHEDULE THRU DEC 31 PEOPLE_W ..

```

```

$ LIGHTING SCHEDULE
LIGHT_SCHD =SCHEDULE THRU DEC 31 LIGHT_ON_W ..

```

```

$ VACUUM SYST & WASTE SYS
EQUIP_SCHD =SCHEDULE THRU DEC 31 EQUIP_W ..

```

## \$ CONSTRUCTION TYPES

```

FLOORCON =CONSTRUCTION U-VALUE = 0.100 ..
ROOF_CON =CONSTRUCTION U-VALUE = 0.050 ..
WALL_CON =CONSTRUCTION U-VALUE = 0.200 ..
DOOR_CON =CONSTRUCTION U-VALUE = 1.000 ..

G_TYPE1 =GLASS-TYPE GLASS-TYPE-CODE = 3
                PANES = 1
                GLASS-CONDUCTANCE = 0.900 ..

```

## \$ SPACE DESCRIPTION

```

WHOLE_BLDG =SPACE AREA = 19244.0 VOLUME = 173196.0

```

AZIMUTH = 315 TEMPERATURE = (72.5)  
 ZONE-TYPE = CONDITIONED PEOPLE-SCHEDULE = PEOPLE\_SCD  
 NUMBER-OF-PEOPLE = 100.0 PEOPLE-HEAT-GAIN = 500.0  
 PEOPLE-HG-SENS = 1.0 LIGHTING-TYPE = REC-FLUOR-RV  
 LIGHTING-KW = 40.08 LIGHTING-SCHEDULE = LIGHT\_SCHD  
 EQUIP-SCHEDULE = EQUIP\_SCHD EQUIPMENT-KW = 103.0  
 EQUIP-SENSIBLE = 0.0 SOURCE-SCHEDULE = FULL\_ON  
 SOURCE-TYPE = HOT-WATER SOURCE-BTU/HR = 18151.0  
 SOURCE-SENSIBLE = 0.0 INF-METHOD = AIR-CHANGE  
 AIR-CHANGES/HR = 0.25 INF-SCHEDULE = FULL\_ON ..

U-W HEIGHT = 121.0 WIDTH = 159.0 CONS = FLOORCON  
 AZIMUTH = 315 ..  
 ROOF HEIGHT = 121.0 WIDTH = 159.0 CONS = ROOF\_CON  
 AZIMUTH = 315 TILT = 0 ..  
 WINDOW HEIGHT = 24.0 WIDTH = 6.0 G-T = G\_TYPE1  
 MULTIPLIER = 4.0 ..  
 E-W HEIGHT = 9.0 WIDTH = 129.5 CONS = WALL\_CON  
 AZIMUTH = 45 ..  
 WINDOW HEIGHT = 4.0 WIDTH = 6.0 G-T = G\_TYPE1  
 MULTIPLIER = 2.0 ..  
 WINDOW HEIGHT = 4.0 WIDTH = 4.0 G-T = G\_TYPE1  
 MULTIPLIER = 4.0 ..  
 WINDOW HEIGHT = 7.5 WIDTH = 3.0 G-T = G\_TYPE1  
 MULTIPLIER = 2.0 ..  
 WINDOW HEIGHT = 4.0 WIDTH = 27.0 G-T = G\_TYPE1 ..  
 E-W HEIGHT = 9.0 WIDTH = 159.0 CONS = WALL\_CON  
 AZIMUTH = 135 ..  
 WINDOW HEIGHT = 4.0 WIDTH = 4.0 G-T = G\_TYPE1  
 MULTIPLIER = 2.0 ..  
 WINDOW HEIGHT = 4.0 WIDTH = 15.0 G-T = G\_TYPE1  
 MULTIPLIER = 3.0 ..  
 WINDOW HEIGHT = 10.5 WIDTH = 10.5 G-T = G\_TYPE1 ..  
 E-W HEIGHT = 9.0 WIDTH = 129.5 CONS = WALL\_CON  
 AZIMUTH = 225 ..  
 WINDOW HEIGHT = 4.0 WIDTH = 27.0 G-T = G\_TYPE1 ..  
 WINDOW HEIGHT = 4.0 WIDTH = 4.0 G-T = G\_TYPE1 ..  
 WINDOW HEIGHT = 7.5 WIDTH = 3.0 G-T = G\_TYPE1  
 MULTIPLIER = 2.0 ..  
 E-W HEIGHT = 9.0 WIDTH = 159.0 CONS = WALL\_CON  
 AZIMUTH = 315 ..  
 WINDOW HEIGHT = 7.5 WIDTH = 7.5 G-T = G\_TYPE1 ..  
 WINDOW HEIGHT = 4.0 WIDTH = 4.0 G-T = G\_TYPE1 ..  
 WINDOW HEIGHT = 4.0 WIDTH = 6.0 G-T = G\_TYPE1 ..

END ..  
 COMPUTE LOADS ..  
 INPUT SYSTEMS ..

\$-----\$  
 \$ E Z - D O E S Y S T E M S I N P U T \$  
 \$-----\$

# \$ GENERAL PROJECT DATA

TITLE LINE-1 \* EMC ENGINEERS INC. \*  
 LINE-2 \*EZDOE - ELITE SOFTWARE DEVELOPMENT INC\*  
 LINE-3 \* DENVER, CO 80227 \*  
 LINE-4 \*BUILDING 10205, DENTAL CLINIC \*  
 LINE-5 \*MODEL WITH SETBACK, 50 F \* ..  
 ABORT ERRORS ..  
 DIAGNOSTIC WARNINGS ..  
 SYSTEMS-REPORT SUMMARY=(SS-A,SS-B,SS-C) ..

# \$ SCHEDULES

FULL\_ON\_D =DAY-SCHEDULE (1,24) (1.) ..  
 FULL\_OFF\_D =DAY-SCHEDULE (1,24) (0.) ..  
 HEAT\_70\_D =DAY-SCHEDULE (1,24) (69.) ..  
 COOL\_71\_D =DAY-SCHEDULE (1,24) (72.) ..  
 SB\_FAN\_D =DAY-SCHEDULE (1,4) (0.)  
 (5,17) (1.)  
 (18,24) (0.) ..  
 HT\_W\_SB\_D =DAY-SCHEDULE (1,4) (50.)  
 (5,17) (70.)  
 (18,24) (50.) ..  
 CL\_W\_SB\_D =DAY-SCHEDULE (1,4) (85.)  
 (5,17) (72.)  
 (18,24) (85.) ..  
 50\_D =DAY-SCHEDULE (1,24) (50.) ..  
 85\_D =DAY-SCHEDULE (1,24) (85.) ..  
 FULL\_ON\_W =WEEK-SCHEDULE (ALL) FULL\_ON\_D ..  
 FULL\_OFF\_W =WEEK-SCHEDULE (ALL) FULL\_OFF\_D ..

```

HEAT_70_W =WEEK-SCHEDULE (ALL) HEAT_70_D ..
COOL_71_W =WEEK-SCHEDULE (ALL) COOL_71_D ..
SB_FAN_W =WEEK-SCHEDULE (WD) SB_FAN_D
              (WEH) FULL_OFF_D ..
HT_W_SB_W =WEEK-SCHEDULE (WD) HT_W_SB_D
              (SAT) 50_D
              (SUN) 50_D
              (HOL) HT_W_SB_D ..
CL_W_SB_W =WEEK-SCHEDULE (WD) CL_W_SB_D
              (SAT) 85_D
              (SUN) 85_D
              (HOL) CL_W_SB_D ..

```

```

$ FULL ON SCHEDULE
FULL_ON =SCHEDULE THRU DEC 31 FULL_ON_W ..

$ FULL OFF SCHEDULE
FULL_OFF =SCHEDULE THRU DEC 31 FULL_OFF_W ..

$ HEATING SCHEDULE
HEAT_70 =SCHEDULE THRU DEC 31 HEAT_70_W ..

$ COOLING SCHEDULE 71 F
COOL_71_Y =SCHEDULE THRU DEC 31 COOL_71_W ..

SB_FAN_Y =SCHEDULE THRU DEC 31 SB_FAN_W ..
HT_W_SB =SCHEDULE THRU DEC 31 HT_W_SB_W ..
CL_W_SB =SCHEDULE THRU DEC 31 CL_W_SB_W ..

```

#### \$ ZONE DESCRIPTION

```

WHOLE_BLDG =ZONE DESIGN-HEAT-T = 70.0 DESIGN-COOL-T = 72.0
HEAT-TEMP-SCH = HT_W_SB COOL-TEMP-SCH = CL_W_SB
ZONE-TYPE = CONDITIONED
THERMOSTAT-TYPE = PROPORTIONAL THROTTLING-RANGE = 1.0
BASEBOARD-CTRL = THERMOSTATIC
BASEBOARD-RATING = -87750000. ASSIGNED-CFM = 17520.
OUTSIDE-AIR-CFM = 3180. SIZING-OPTION = FROM-LOADS
RATED-CFM = 17520.0 MIN-CFM-RATIO = 0.49
EXHAUST-CFM = 3180.0 EXHAUST-STATIC = 1.5
HEATING-CAPACITY = -400800.0
COOLING-CAPACITY = 599000.0 ..

```

#### \$ SYSTEM DESCRIPTION

```

AHU_1 =SYSTEM SYSTEM-TYPE = PMZS
MAX-SUPPLY-T = 135.0 MIN-SUPPLY-T = 57.0
HEAT-SET-T = 135.0 MIN-HUMIDITY = 30.0
ECONO-LIMIT-T = 65.0 ECONO-LOW-LIMIT = 55.0
COOL-SET-T = 57.0 SUPPLY-CFM = 17520.
RETURN-CFM = 14340. RATED-CFM = 17520.
MIN-OUTSIDE-AIR = 0.18 FAN-SCHEDULE = SB_FAN_Y
SUPPLY-STATIC = 4.1 SUPPLY-EFF = 0.6
SUPPLY-MECH-EFF = 0.7
MOTOR-PLACEMENT = OUTSIDE-AIRFLOW
NIGHT-CYCLE-CTRL = CYCLE-ON-ANY RETURN-STATIC = 1.0
RETURN-EFF = 0.7 MIN-CFM-RATIO = 1.0
COOLING-CAPACITY = 599000. COOL-SH-CAP = 599000.
HEATING-CAPACITY = -274500. FURNACE-AUX = 0.
CRANKCASE-MAX-T = 0. OUTSIDE-FAN-T = 45.
HEAT-SOURCE = HOT-WATER
BASEBOARD-SOURCE = HOT-WATER
ZONE-NAMES = (WHOLE_BLDG) ..

```

#### \$ HOURLY REPORT DESCRIPTION

```

SYST1 =REPORT-BLOCK VARIABLE-TYPE = WHOLE_BLDG
              VARIABLE-LIST = (6,7) ..
REP1 = HOURLY-REPORT REPORT-SCHEDULE = FULL_ON
              REPORT-BLOCK = (SYST1)
..
END ..
COMPUTE SYSTEMS ..
INPUT PLANT ..

```

```

$-----$
$ E Z - D O E P L A N T S I N P U T $
$-----$

```

#### \$ GENERAL PROJECT DATA

```

TITLE LINE-1 * EMC ENGINEERS INC. *
LINE-2 *EZDOE - ELITE SOFTWARE DEVELOPMENT INC*
LINE-3 * DENVER, CO 80227 *
LINE-4 *BUILDING 10205, DENTAL CLINIC *
LINE-5 *MODEL WITH SETBACK, 50 F * ..

```

```

ABORT ERRORS ..
DIAGNOSTIC WARNINGS ..
PLANT-REPORT SUMMARY=(PS-A, PS-B, BEPS)
..

```

#### \$ SCHEDULES



FULL\_ON\_D =DAY-SCHEDULE (1,24) (1.) ..

FULL\_ON\_W =WEEK-SCHEDULE (ALL) FULL\_ON\_D ..

\$ FULL ON SCHEDULE

FULL\_ON =SCHEDULE THRU DEC 31 FULL\_ON\_W ..

\$ EQUIPMENT DESCRIPTION

HX . =PLANT-EQUIPMENT TYPE = HTANK-STORAGE  
SIZE = 0.9 ..

PLANT-PARAMETERS OPEN-REC-COND-TYPE = AIR OPEN-CENT-COND-PWR = 0.13  
OPEN-REC-COND-PWR = 0.19 HCIRC-HEAD = 25.0 ..

ENERGY-RESOURCE RESOURCE = ELECTRICITY ..  
ENERGY-RESOURCE RESOURCE = STEAM SOURCE-SITE-EFF = 1.000 ..

ENERGY-STORAGE HEAT-STORE-RATE = 0.94 HEAT-SUPPLY-RATE = 0.94  
HTANK-BASE-T = 195.0 HTANK-T-RANGE = 50.0  
HEAT-STORE-SCH = FULL\_ON ..

HEAT-RECOVERY

SUPPLY-1 = (HTANK-STORAGE)  
DEMAND-1 = (SPACE-HEAT,PROCESS-HEAT) ..

END ..  
COMPUTE PLANT ..  
STOP ..

ENERGY TYPE IN SITE MBTU-	STEAM	ELECTRICITY	RECOVERED
CATEGORY OF USE			
SPACE HEAT	1,046.04	52.67	
SPACE COOL	0.00	81.81	
HVAC AUX	0.00	201.18	
DOM HOT WTR	159.00	0.00	
AUX SOLAR	0.00	0.00	
LIGHTS	0.00	201.66	
VERT TRANS	0.00	0.00	
MISC EQUIP	0.00	350.79	
	-----	-----	
TOTAL	1,205.03	888.10	

TOTAL SITE ENERGY 2093.17 MBTU 108.8 KBTU/SQFT-YR GROSS-AREA 108.8 KBTU/SQFT-YR NET-AREA  
 TOTAL SOURCE ENERGY 3872.09 MBTU 201.2 KBTU/SQFT-YR GROSS-AREA 201.2 KBTU/SQFT-YR NET-AREA

PERCENT OF HOURS ANY SYSTEM ZONE OUTSIDE OF THROTTLING RANGE = 0.1  
 PERCENT OF HOURS ANY PLANT LOAD NOT SATISFIED = 0.0

NOTE ELECTRICITY AND/OR FUEL USED TO GENERATE ELECTRICITY IS APPORTIONED BASED  
 ON THE YEARLY DEMAND. ALL OTHER ENERGY TYPES ARE APPORTIONED HOURLY.

EMC ENGINEERS INC. EZZOE - ELITE SOFTWARE DEVELOPMENT INC DOE-2.1D 3/27/1995 11:59:28 PDL RUN 1  
 DENVER, CO 80227 BUILDING 10205, DENTAL CLINIC MODEL WITH SETBACK, 50 F  
 REPORT- PS-B MONTHLY PEAK AND TOTAL ENERGY USE WEATHER FILE- MASSENA, NY

MO	UTILITY-	STEAM	ELECTRICITY
	TOTAL (MBTU)	213.896	77.001
JAN	PEAK (KBTU)	1315.273	345.721
	DY/HR	24/ 5	6/17
	TOTAL (MBTU)	162.288	67.183
FEB	PEAK (KBTU)	1265.442	328.730
	DY/HR	14/ 5	4/17
	TOTAL (MBTU)	159.708	80.511
MAR	PEAK (KBTU)	1166.525	334.200
	DY/HR	28/ 5	8/17
	TOTAL (MBTU)	99.161	71.543
APR	PEAK (KBTU)	993.185	344.126
	DY/HR	4/ 5	13/17
	TOTAL (MBTU)	69.245	73.135
MAY	PEAK (KBTU)	802.416	376.719
	DY/HR	16/ 5	4/17
	TOTAL (MBTU)	34.237	78.351
JUN	PEAK (KBTU)	287.181	391.905
	DY/HR	20/ 5	28/17
	TOTAL (MBTU)	23.791	77.570
JUL	PEAK (KBTU)	330.417	455.541
	DY/HR	25/ 5	18/17
	TOTAL (MBTU)	29.990	83.650
AUG	PEAK (KBTU)	288.980	409.769
	DY/HR	22/ 5	9/17
	TOTAL (MBTU)	48.086	73.589
SEP	PEAK (KBTU)	436.126	412.357
	DY/HR	19/ 5	2/17
	TOTAL (MBTU)	80.416	66.405
OCT	PEAK (KBTU)	694.136	321.624
	DY/HR	31/ 5	26/17
	TOTAL (MBTU)	119.675	65.970
NOV	PEAK (KBTU)	1136.273	308.082
	DY/HR	28/ 5	22/17
	TOTAL (MBTU)	164.558	73.218
DEC	PEAK (KBTU)	1173.419	330.236
	DY/HR	19/ 5	30/17
	ONE YEAR	1205.049	888.124
	USE/PEAK	1315.273	455.541

**COMPUTER SIMULATIONS**  
**BUILDING 10205**

RUN 3 - DDC

LDL PROCESSOR INPUT DATA

3/18/1995 8:49: 0 LDL RUN 1

```

* 3 *
* 4 *
* 5 *
* 6 *
* 7 *
* 8 *
* 9 *
* 10 *
* 11 * TITLE LINE-1 * EMC ENGINEERS INC. *
* 12 * LINE-2 *EZDOE - ELITE SOFTWARE DEVELOPMENT INC*
* 13 * LINE-3 * DENVER, CO 80227 *
* 14 *
* 15 * LINE-4 *BUILDING 10205, DENTAL CLINIC *
* 16 * LINE-5 *MODEL WITH SETBACK AND DDC * ..
* 17 *
* 18 * ABORT ERRORS ..
* 19 * DIAGNOSTIC WARNINGS ..
* 20 * LOADS-REPORT SUMMARY=(LS-C,LS-D) ..
* 21 * BUILDING-LOCATION X-REF = 0.0
* 22 * Y-REF = 0.0 ..
* 23 * RUN-PERIOD JAN 1 1994 THRU DEC 31 1994 ..
* 24 *
* 25 *
* 26 * $ SCHEDULES
* 27 *
* 28 * PEOPLE_D =DAY-SCHEDULE (1,5) (0.)
* 29 * (6,7) (0.1,0.5)
* 30 * (8,13) (1.)
* 31 * (14,17) (0.8,0.5,0.4,0.8)
* 32 * (18,19) (0.4,0.1)
* 33 * (20,24) (0.) ..
* 34 *
* 35 * LIGHT_D =DAY-SCHEDULE (1,5) (0.05)
* 36 * (6,8) (0.4,0.5,0.4)
* 37 * (9,11) (0.3)
* 38 * (12,13) (0.4)
* 39 * (14,15) (0.3)
* 40 * (16,18) (0.5,0.7,0.5)
* 41 * (19,24) (0.05) ..
* 42 *
* 43 * LIGHT_SAT =DAY-SCHEDULE (1,11) (0.05)
* 44 * (12) (0.4)
* 45 * (13,14) (0.9)
* 46 * (15) (0.55)
* 47 * (16,19) (0.4)
* 48 * (20,24) (0.05) ..
* 49 *
* 50 * EQUIP_D =DAY-SCHEDULE (1,5) (0.)
* 51 * (6,17) (0.33)
* 52 * (18,24) (0.) ..
* 53 *
* 54 * FULL_ON_D =DAY-SCHEDULE (1,24) (1.) ..
* 55 *
* 56 * FULL_OFF_D =DAY-SCHEDULE (1,24) (0.) ..
* 57 *
* 58 *
* 59 * PEOPLE_W =WEEK-SCHEDULE (WD) PEOPLE_D
* 60 * (WEH) FULL_OFF_D ..
* 61 *
* 62 * FULL_ON_W =WEEK-SCHEDULE (ALL) FULL_ON_D ..
* 63 *
* 64 * FULL_OFF_W =WEEK-SCHEDULE (ALL) FULL_OFF_D ..
* 65 *
* 66 * LIGHT_ON_W =WEEK-SCHEDULE (WD) LIGHT_D
* 67 * (WEH) FULL_OFF_D ..
* 68 *
* 69 * EQUIP_W =WEEK-SCHEDULE (WD) EQUIP_D
* 70 * (WEH) FULL_OFF_D ..
* 71 *
* 72 *
* 73 * $ FULL ON SCHEDULE
* 74 * FULL_ON =SCHEDULE THRU DEC 31 FULL_ON_W ..
* 75 *
* 76 * $ FULL OFF SCHEDULE
* 77 * FULL_OFF =SCHEDULE THRU DEC 31 FULL_OFF_W ..
* 78 *
* 79 * $ OCCUPANCY SCHEDULE
* 80 * PEOPLE_SCD =SCHEDULE THRU DEC 31 PEOPLE_W ..
* 81 *
* 82 * $ LIGHTING SCHEDULE
* 83 * LIGHT_SCHD =SCHEDULE THRU DEC 31 LIGHT_ON_W ..
* 84 *
* 85 * $ VACUUM SYST & WASTE SYS
* 86 * EQUIP_SCHD =SCHEDULE THRU DEC 31 EQUIP_W ..
* 87 *
* 88 *
* 89 *
* 90 *
* 91 * $ CONSTRUCTION TYPES
* 92 *
* 93 *
* 94 * FLOORCON =CONSTRUCTION U-VALUE = 0.100 ..
* 95 * ROOF_CON =CONSTRUCTION U-VALUE = 0.050 ..
* 96 * WALL_CON =CONSTRUCTION U-VALUE = 0.200 ..
* 97 * DOOR_CON =CONSTRUCTION U-VALUE = 1.000 ..
* 98 *
* 99 * G_TYPE1 =GLASS-TYPE GLASS-TYPE-CODE = 3
* 100 * PANES = 1
* 101 * GLASS-CONDUCTANCE = 0.900 ..
* 102 *

```

```

* 103 *
* 104 *
* 105 *
* 106 *           $ SPACE DESCRIPTION
* 107 *
* 108 * WHOLE_BLDG =SPACE   AREA = 19244.0  VOLUME = 173196.0
* 109 *                   AZIMUTH = 315  TEMPERATURE = (72.5)
* 110 *                   ZONE-TYPE = CONDITIONED  PEOPLE-SCHEDULE = PEOPLE_SCD
* 111 *                   NUMBER-OF-PEOPLE = 100.0  PEOPLE-HEAT-GAIN = 500.0
* 112 *                   PEOPLE-HG-SENS = 1.0  LIGHTING-TYPE = REC-FLUOR-RV
* 113 *                   LIGHTING-KW = 40.08  LIGHTING-SCHEDULE = LIGHT_SCHD
* 114 *                   EQUIP-SCHEDULE = EQUIP_SCHD  EQUIPMENT-KW = 103.0
* 115 *                   EQUIP-SENSIBLE = 0.0  SOURCE-SCHEDULE = FULL_ON
* 116 *                   SOURCE-TYPE = HOT-WATER  SOURCE-BTU/HR = 18151.0
* 117 *                   SOURCE-SENSIBLE = 0.0  INF-METHOD = AIR-CHANGE
* 118 *                   AIR-CHANGES/HR = 0.25  INF-SCHEDULE = FULL_ON  ..
* 119 *
* 120 *           U-W        HEIGHT = 121.0  WIDTH = 159.0  CONS = FLOORCON
* 121 *                   AZIMUTH = 315  ..
* 122 *
* 123 *           ROOF       HEIGHT = 121.0  WIDTH = 159.0  CONS = ROOF_CON
* 124 *                   AZIMUTH = 315  TILT = 0  ..
* 125 *
* 126 *           WINDOW    HEIGHT = 24.0  WIDTH = 6.0  G-T = G_TYPE1
* 127 *                   MULTIPLIER = 4.0  ..
* 128 *
* 129 *           E-W        HEIGHT = 9.0  WIDTH = 129.5  CONS = WALL_CON
* 130 *                   AZIMUTH = 45  ..
* 131 *
* 132 *           WINDOW    HEIGHT = 4.0  WIDTH = 6.0  G-T = G_TYPE1
* 133 *                   MULTIPLIER = 2.0  ..
* 134 *
* 135 *           WINDOW    HEIGHT = 4.0  WIDTH = 4.0  G-T = G_TYPE1
* 136 *                   MULTIPLIER = 4.0  ..
* 137 *
* 138 *           WINDOW    HEIGHT = 7.5  WIDTH = 3.0  G-T = G_TYPE1
* 139 *                   MULTIPLIER = 2.0  ..
* 140 *
* 141 *           WINDOW    HEIGHT = 4.0  WIDTH = 27.0  G-T = G_TYPE1  ..
* 142 *
* 143 *           E-W        HEIGHT = 9.0  WIDTH = 159.0  CONS = WALL_CON
* 144 *                   AZIMUTH = 135  ..
* 145 *
* 146 *           WINDOW    HEIGHT = 4.0  WIDTH = 4.0  G-T = G_TYPE1
* 147 *                   MULTIPLIER = 2.0  ..
* 148 *
* 149 *           WINDOW    HEIGHT = 4.0  WIDTH = 15.0  G-T = G_TYPE1
* 150 *                   MULTIPLIER = 3.0  ..
* 151 *
* 152 *           WINDOW    HEIGHT = 10.5  WIDTH = 10.5  G-T = G_TYPE1  ..
* 153 *
* 154 *           E-W        HEIGHT = 9.0  WIDTH = 129.5  CONS = WALL_CON
* 155 *                   AZIMUTH = 225  ..
* 156 *
* 157 *           WINDOW    HEIGHT = 4.0  WIDTH = 27.0  G-T = G_TYPE1  ..
* 158 *
* 159 *           WINDOW    HEIGHT = 4.0  WIDTH = 4.0  G-T = G_TYPE1  ..
* 160 *
* 161 *           WINDOW    HEIGHT = 7.5  WIDTH = 3.0  G-T = G_TYPE1
* 162 *                   MULTIPLIER = 2.0  ..
* 163 *
* 164 *           E-W        HEIGHT = 9.0  WIDTH = 159.0  CONS = WALL_CON
* 165 *                   AZIMUTH = 315  ..
* 166 *
* 167 *           WINDOW    HEIGHT = 7.5  WIDTH = 7.5  G-T = G_TYPE1  ..
* 168 *
* 169 *           WINDOW    HEIGHT = 4.0  WIDTH = 4.0  G-T = G_TYPE1  ..
* 170 *
* 171 *           WINDOW    HEIGHT = 4.0  WIDTH = 6.0  G-T = G_TYPE1  ..
* 172 *
* 173 *
* 174 * END  ..
* 175 * COMPUTE LOADS  ..
* 176 *
* 177 * INPUT SYSTEMS  ..

```

SDL PROCESSOR INPUT DATA

3/18/1995 8:49: 0 SDL RUN 1

```

* 178 *
* 179 *
* 180 * $-----$
* 181 * $EZ - DOE SYSTEMS INPUT $
* 182 * $-----$
* 183 *
* 184 * $ GENERAL PROJECT DATA
* 185 *
* 186 * TITLE LINE-1 * EMC ENGINEERS INC. *
* 187 * LINE-2 *EZDOE - ELITE SOFTWARE DEVELOPMENT INC*
* 188 * LINE-3 * DENVER, CO 80227 *
* 189 *
* 190 * LINE-4 *BUILDING 10205, DENTAL CLINIC *
* 191 * LINE-5 *MODEL WITH SETBACK AND DDC * ..
* 192 * ABORT ERRORS ..
* 193 * DIAGNOSTIC WARNINGS ..
* 194 * SYSTEMS-REPORT SUMMARY=(SS-A,SS-C,SS-H,SS-J,SS-K,SS-O) ..
* 195 *
* 196 * $ SCHEDULES
* 197 *
* 198 * FULL_ON_D =DAY-SCHEDULE (1,24) (1.) ..
* 199 * FULL_OFF_D =DAY-SCHEDULE (1,24) (0.) ..
* 200 * HEAT_70_D =DAY-SCHEDULE (1,24) (69.) ..
* 201 * COOL_71_D =DAY-SCHEDULE (1,24) (72.) ..
* 202 * SB_FAN_D =DAY-SCHEDULE (1,4) (0.)
* 203 * (5,17) (1.)
* 204 * (18,24) (0.) ..
* 205 * HT_W_SB_D =DAY-SCHEDULE (1,4) (50.)
* 206 * (5,17) (68.)
* 207 * (18,24) (50.) ..
* 208 * CL_W_SB_D =DAY-SCHEDULE (1,4) (85.)
* 209 * (5,17) (78.)
* 210 * (18,24) (85.) ..
* 211 * 50_D =DAY-SCHEDULE (1,24) (50.) ..
* 212 * 85_D =DAY-SCHEDULE (1,24) (85.) ..
* 213 *
* 214 * FULL_ON_W =WEEK-SCHEDULE (ALL) FULL_ON_D ..
* 215 *
* 216 * FULL_OFF_W =WEEK-SCHEDULE (ALL) FULL_OFF_D ..
* 217 *
* 218 * HEAT_70_W =WEEK-SCHEDULE (ALL) HEAT_70_D ..
* 219 *
* 220 * COOL_71_W =WEEK-SCHEDULE (ALL) COOL_71_D ..
* 221 *
* 222 * SB_FAN_W =WEEK-SCHEDULE (WD) SB_FAN_D
* 223 * (WEH) FULL_OFF_D ..
* 224 *
* 225 * HT_W_SB_W =WEEK-SCHEDULE (WD) HT_W_SB_D
* 226 * (SAT) 50_D
* 227 * (SUN) 50_D
* 228 * (HOL) HT_W_SB_D ..
* 229 *
* 230 * CL_W_SB_W =WEEK-SCHEDULE (WD) CL_W_SB_D
* 231 * (SAT) 85_D
* 232 * (SUN) 85_D
* 233 * (HOL) CL_W_SB_D ..
* 234 *
* 235 *
* 236 * $ FULL ON SCHEDULE
* 237 * FULL_ON =SCHEDULE THRU DEC 31 FULL_ON_W ..
* 238 *
* 239 * $ FULL OFF SCHEDULE
* 240 * FULL_OFF =SCHEDULE THRU DEC 31 FULL_OFF_W ..
* 241 *
* 242 * $ HEATING SCHEDULE
* 243 * HEAT_70 =SCHEDULE THRU DEC 31 HEAT_70_W ..
* 244 *
* 245 * $ COOLING SCHEDULE 71 F
* 246 * COOL_71_Y =SCHEDULE THRU DEC 31 COOL_71_W ..
* 247 *
* 248 * SB_FAN_Y =SCHEDULE THRU DEC 31 SB_FAN_W ..
* 249 *
* 250 * HT_W_SB =SCHEDULE THRU DEC 31 HT_W_SB_W ..
* 251 *
* 252 * CL_W_SB =SCHEDULE THRU DEC 31 CL_W_SB_W ..
* 253 *
* 254 *
* 255 * $ ZONE DESCRIPTION
* 256 *
* 257 *
* 258 * WHOLE_BLDG =ZONE DESIGN-HEAT-T = 68.0 DESIGN-COOL-T = 78.0
* 259 * HEAT-TEMP-SCH = HT_W_SB COOL-TEMP-SCH = CL_W_SB
* 260 * ZONE-TYPE = CONDITIONED
* 261 * THERMOSTAT-TYPE = PROPORTIONAL
* 262 * BASEBOARD-CTRL = THERMOSTATIC
* 263 * BASEBOARD-RATING = -87750000. ASSIGNED-CFM = 17520.
* 264 * OUTSIDE-AIR-CFM = 3180. SIZING-OPTION = FROM-LOADS
* 265 * RATED-CFM = 17520.0 MIN-CFM-RATIO = 0.49
* 266 * EXHAUST-CFM = 3180.0 EXHAUST-STATIC = 1.5
* 267 * HEATING-CAPACITY = -400800.0
* 268 * COOLING-CAPACITY = 599000.0 ..
* 269 *
* 270 *
* 271 * $ SYSTEM DESCRIPTION
* 272 *
* 273 * AHU_1 =SYSTEM SYSTEM-TYPE = PMZS
* 274 * MAX-SUPPLY-T = 135.0 MIN-SUPPLY-T = 57.0
* 275 * HEAT-SET-T = 135.0 MIN-HUMIDITY = 30.0
* 276 * ECONO-LIMIT-T = 65.0 ECONO-LOW-LIMIT = 55.0
* 277 * COOL-SET-T = 57.0 SUPPLY-CFM = 17520.

```

```

* 278 *      RETURN-CFM = 14340.  RATED-CFM = 17520.
* 279 *      MIN-OUTSIDE-AIR = 0.18  FAN-SCHEDULE = SB_FAN_Y
* 280 *      SUPPLY-STATIC = 4.1  SUPPLY-EFF = 0.6
* 281 *      SUPPLY-MECH-EFF = 0.7
* 282 *      MOTOR-PLACEMENT = OUTSIDE-AIRFLOW
* 283 *      NIGHT-CYCLE-CTRL = CYCLE-ON-ANY  RETURN-STATIC = 1.0
* 284 *      RETURN-EFF = 0.7  MIN-CFM-RATIO = 1.0
* 285 *      COOLING-CAPACITY = 599000.  COOL-SH-CAP = 599000.
* 286 *      HEATING-CAPACITY = -274500.  FURNACE-AUX = 0.
* 287 *      CRANKCASE-MAX-T = 0.  OUTSIDE-FAN-T = 45.
* 288 *      HEAT-SOURCE = HOT-WATER
* 289 *      BASEBOARD-SOURCE = HOT-WATER
* 290 *      ZONE-NAMES = (WHOLE_BLDG)  ..
* 291 *
* 292 *
* 293 *      $ HOURLY REPORT DESCRIPTION
* 294 *
* 295 * SYST1      =REPORT-BLOCK VARIABLE-TYPE = WHOLE_BLDG
* 296 *              VARIABLE-LIST = (6,7)  ..
* 297 * REP1      = HOURLY-REPORT  REPORT-SCHEDULE = FULL_ON
* 298 *              REPORT-BLOCK = (SYST1)
* 299 *      ..
* 300 * END      ..
* 301 * COMPUTE SYSTEMS  ..
* 302 *
* 303 * INPUT PLANT  ..

```



PDL PROCESSOR INPUT DATA

3/18/1995 8:49: 0 PDL RUN 1

```

* 304 *
* 305 *
* 306 *          $-----$
* 307 *          $EZ - DOE PLANTS INPUT $
* 308 *          $-----$
* 309 *
* 310 *          $ GENERAL PROJECT DATA
* 311 *
* 312 * TITLE LINE-1 * EMC ENGINEERS INC. *
* 313 * LINE-2 *EZDOE - ELITE SOFTWARE DEVELOPMENT INC*
* 314 * LINE-3 * DENVER, CO 80227 *
* 315 *
* 316 * LINE-4 *BUILDING 10205, DENTAL CLINIC *
* 317 * LINE-5 *MODEL WITH SETBACK AND DDC * ..
* 318 *
* 319 * ABORT ERRORS ..
* 320 * DIAGNOSTIC WARNINGS ..
* 321 * PLANT-REPORT SUMMARY=(PS-A,PS-B,BEPS)
* 322 * ..
* 323 *
* 324 *          $ SCHEDULES
* 325 *
* 326 * FULL_ON_D =DAY-SCHEDULE (1,24) (1.) ..
* 327 *
* 328 *
* 329 * FULL_ON_W =WEEK-SCHEDULE (ALL) FULL_ON_D ..
* 330 *
* 331 *
* 332 * $ FULL ON SCHEDULE
* 333 * FULL_ON =SCHEDULE THRU DEC 31 FULL_ON_W ..
* 334 *
* 335 *
* 336 *
* 337 *          $ EQUIPMENT DESCRIPTION
* 338 *
* 339 * HX =PLANT-EQUIPMENT TYPE = HTANK-STORAGE
* 340 * SIZE = 0.9 ..
* 341 *
* 342 * PLANT-PARAMETERS OPEN-REC-COND-TYPE = AIR OPEN-CENT-COND-PWR = 0.13
* 343 * OPEN-REC-COND-PWR = 0.19 HCIRC-HEAD = 25.0 ..
* 344 *
* 345 *
* 346 * ENERGY-RESOURCE RESOURCE = ELECTRICITY ..
* 347 * ENERGY-RESOURCE RESOURCE = STEAM SOURCE-SITE-EFF = 1.000 ..
* 348 *
* 349 * ENERGY-STORAGE HEAT-STORE-RATE = 0.94 HEAT-SUPPLY-RATE = 0.94
* 350 * HTANK-BASE-T = 195.0 HTANK-T-RANGE = 50.0
* 351 * HEAT-STORE-SCH = FULL_ON ..
* 352 *
* 353 * HEAT-RECOVERY
* 354 * SUPPLY-1 = (HTANK-STORAGE)
* 355 * DEMAND-1 = (SPACE-HEAT,PROCESS-HEAT) ..
* 356 *
* 357 *
* 358 *
* 359 * END ..
* 360 * COMPUTE PLANT ..
* 361 * STOP ..

```

ENERGY TYPE IN SITE MBTU-	STEAM	ELECTRICITY	RECOVERED
CATEGORY OF USE			
SPACE HEAT	965.27	46.08	
SPACE COOL	0.00	73.74	
HVAC AUX	0.00	200.14	
DOM HOT WTR	159.00	0.00	
AUX SOLAR	0.00	0.00	
LIGHTS	0.00	201.66	
VERT TRANS	0.00	0.00	
MISC EQUIP	0.00	350.79	
	-----	-----	
TOTAL	1,124.27	872.42	

TOTAL SITE ENERGY 1996.73 MBTU 103.8 KBTU/SQFT-YR GROSS-AREA 103.8 KBTU/SQFT-YR NET-AREA  
 TOTAL SOURCE ENERGY 3744.22 MBTU 194.6 KBTU/SQFT-YR GROSS-AREA 194.6 KBTU/SQFT-YR NET-AREA

PERCENT OF HOURS ANY SYSTEM ZONE OUTSIDE OF THROTTLING RANGE = 0.0  
 PERCENT OF HOURS ANY PLANT LOAD NOT SATISFIED = 0.0

NOTE ELECTRICITY AND/OR FUEL USED TO GENERATE ELECTRICITY IS APPORTIONED BASED  
 ON THE YEARLY DEMAND. ALL OTHER ENERGY TYPES ARE APPORTIONED HOURLY.

MO	UTILITY-	STEAM	ELECTRICITY
	TOTAL (MBTU)	207.704	75.652
JAN	PEAK (KBTU)	1232.546	340.660
	DY/HR	24/ 5	6/17
	TOTAL (MBTU)	156.806	65.872
FEB	PEAK (KBTU)	1184.084	324.191
	DY/HR	14/ 5	4/17
	TOTAL (MBTU)	152.697	78.897
MAR	PEAK (KBTU)	1084.770	329.559
	DY/HR	28/ 5	8/17
	TOTAL (MBTU)	91.616	70.237
APR	PEAK (KBTU)	921.145	333.306
	DY/HR	4/ 5	13/17
	TOTAL (MBTU)	61.334	72.145
MAY	PEAK (KBTU)	753.166	365.882
	DY/HR	16/ 5	4/17
	TOTAL (MBTU)	27.163	77.653
JUN	PEAK (KBTU)	253.464	358.082
	DY/HR	8/ 5	28/17
	TOTAL (MBTU)	19.176	75.216
JUL	PEAK (KBTU)	257.684	413.236
	DY/HR	25/ 5	18/17
	TOTAL (MBTU)	23.988	82.367
AUG	PEAK (KBTU)	230.197	365.601
	DY/HR	22/ 5	9/17
	TOTAL (MBTU)	40.103	71.875
SEP	PEAK (KBTU)	386.688	373.457
	DY/HR	19/ 5	2/17
	TOTAL (MBTU)	72.579	65.576
OCT	PEAK (KBTU)	647.185	318.322
	DY/HR	31/ 5	6/17
	TOTAL (MBTU)	112.376	64.932
NOV	PEAK (KBTU)	1055.837	303.930
	DY/HR	28/ 5	22/17
	TOTAL (MBTU)	158.747	72.017
DEC	PEAK (KBTU)	1095.543	325.707
	DY/HR	19/ 5	30/17
	ONE YEAR	1124.290	872.438
	USE/PEAK	1232.546	413.236

**COMPUTER SIMULATIONS**  
**BUILDING 10205**

**RUN 4 - FORCED VENTILATION**

# LDL PROCESSOR INPUT DATA

3/18/1995 17:22: 6 LDL RUN 1

```

* 3 *
* 4 *
* 5 *
* 6 *
* 7 *
* 8 *
* 9 *
* 10 *
* 11 * TITLE LINE-1 * EMC ENGINEERS INC. *
* 12 * LINE-2 *EZDOE - ELITE SOFTWARE DEVELOPMENT INC*
* 13 * LINE-3 * DENVER, CO 80227 *
* 14 *
* 15 * LINE-4 *BUILDING 10205, DENTAL CLINIC *
* 16 * LINE-5 *SETBACK, DDC, AND FORCED VENTILATION * ..
* 17 *
* 18 * ABORT ERRORS ..
* 19 * DIAGNOSTIC WARNINGS ..
* 20 * LOADS-REPORT SUMMARY=(LS-C,LS-D) ..
* 21 * BUILDING-LOCATION X-REF = 0.0
* 22 * Y-REF = 0.0 ..
* 23 * RUN-PERIOD JAN 1 1994 THRU DEC 31 1994 ..
* 24 *
* 25 *
* 26 * $ SCHEDULES
* 27 *
* 28 * PEOPLE_D =DAY-SCHEDULE (1,5) (0.)
* 29 * (6,7) (0.1,0.5)
* 30 * (8,13) (1.)
* 31 * (14,17) (0.8,0.5,0.4,0.8)
* 32 * (18,19) (0.4,0.1)
* 33 * (20,24) (0.) ..
* 34 *
* 35 * LIGHT_D =DAY-SCHEDULE (1,5) (0.05)
* 36 * (6,8) (0.4,0.5,0.4)
* 37 * (9,11) (0.3)
* 38 * (12,13) (0.4)
* 39 * (14,15) (0.3)
* 40 * (16,18) (0.5,0.7,0.5)
* 41 * (19,24) (0.05) ..
* 42 *
* 43 * LIGHT_SAT =DAY-SCHEDULE (1,11) (0.05)
* 44 * (12) (0.4)
* 45 * (13,14) (0.9)
* 46 * (15) (0.55)
* 47 * (16,19) (0.4)
* 48 * (20,24) (0.05) ..
* 49 *
* 50 * EQUIP_D =DAY-SCHEDULE (1,5) (0.)
* 51 * (6,17) (0.33)
* 52 * (18,24) (0.) ..
* 53 *
* 54 * FULL_ON_D =DAY-SCHEDULE (1,24) (1.) ..
* 55 *
* 56 * FULL_OFF_D =DAY-SCHEDULE (1,24) (0.) ..
* 57 *
* 58 *
* 59 * PEOPLE_W =WEEK-SCHEDULE (WD) PEOPLE_D
* 60 * (WEH) FULL_OFF_D ..
* 61 *
* 62 * FULL_ON_W =WEEK-SCHEDULE (ALL) FULL_ON_D ..
* 63 *
* 64 * FULL_OFF_W =WEEK-SCHEDULE (ALL) FULL_OFF_D ..
* 65 *
* 66 * LIGHT_ON_W =WEEK-SCHEDULE (WD) LIGHT_D
* 67 * (WEH) FULL_OFF_D ..
* 68 *
* 69 * EQUIP_W =WEEK-SCHEDULE (WD) EQUIP_D
* 70 * (WEH) FULL_OFF_D ..
* 71 *
* 72 *
* 73 * $ FULL ON SCHEDULE
* 74 * FULL_ON =SCHEDULE THRU DEC 31 FULL_ON_W ..
* 75 *
* 76 * $ FULL OFF SCHEDULE
* 77 * FULL_OFF =SCHEDULE THRU DEC 31 FULL_OFF_W ..
* 78 *
* 79 * $ OCCUPANCY SCHEDULE
* 80 * PEOPLE_SCD =SCHEDULE THRU DEC 31 PEOPLE_W ..
* 81 *
* 82 * $ LIGHTING SCHEDULE
* 83 * LIGHT_SCHD =SCHEDULE THRU DEC 31 LIGHT_ON_W ..
* 84 *
* 85 * $ VACUUM SYST & WASTE SYS
* 86 * EQUIP_SCHD =SCHEDULE THRU DEC 31 EQUIP_W ..
* 87 *
* 88 *
* 89 *
* 90 * $ CONSTRUCTION TYPES
* 91 *
* 92 *
* 93 *
* 94 * FLOORCON =CONSTRUCTION U-VALUE = 0.100 ..
* 95 * ROOF_CON =CONSTRUCTION U-VALUE = 0.050 ..
* 96 * WALL_CON =CONSTRUCTION U-VALUE = 0.200 ..
* 97 * DOOR_CON =CONSTRUCTION U-VALUE = 1.000 ..
* 98 *
* 99 * G_TYPE1 =GLASS-TYPE GLASS-TYPE-CODE = 3
* 100 * PANES = 1
* 101 * GLASS-CONDUCTANCE = 0.900 ..
* 102 *

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```

* 103 *
* 104 *
* 105 *
* 106 *
* 107 *
* 108 * $ SPACE DESCRIPTION
* 109 *
* 110 * WHOLE_BLDG =SPACE AREA = 19244.0 VOLUME = 173196.0
* 111 * AZIMUTH = 315 TEMPERATURE = (72.5)
* 112 * ZONE-TYPE = CONDITIONED PEOPLE-SCHEDULE = PEOPLE_SCD
* 113 * NUMBER-OF-PEOPLE = 100.0 PEOPLE-HEAT-GAIN = 500.0
* 114 * PEOPLE-HG-SENS = 1.0 LIGHTING-TYPE = REC-FLUOR-RV
* 115 * LIGHTING-KW = 40.08 LIGHTING-SCHEDULE = LIGHT_SCHD
* 116 * EQUIP-SCHEDULE = EQUIP_SCHD EQUIPMENT-KW = 103.0
* 117 * EQUIP-SENSIBLE = 0.0 SOURCE-SCHEDULE = FULL_ON
* 118 * SOURCE-TYPE = HOT-WATER SOURCE-BTU/HR = 18151.0
* 119 * SOURCE-SENSIBLE = 0.0 INF-METHOD = AIR-CHANGE
* 120 * AIR-CHANGES/HR = 0.25 INF-SCHEDULE = FULL_ON ..
* 121 *
* 122 * U-W HEIGHT = 121.0 WIDTH = 159.0 CONS = FLOORCON
* 123 * AZIMUTH = 315 ..
* 124 *
* 125 * ROOF HEIGHT = 121.0 WIDTH = 159.0 CONS = ROOF_CON
* 126 * AZIMUTH = 315 TILT = 0 ..
* 127 *
* 128 * WINDOW HEIGHT = 24.0 WIDTH = 6.0 G-T = G_TYPE1
* 129 * MULTIPLIER = 4.0 ..
* 130 *
* 131 * E-W HEIGHT = 9.0 WIDTH = 129.5 CONS = WALL_CON
* 132 * AZIMUTH = 45 ..
* 133 *
* 134 * WINDOW HEIGHT = 4.0 WIDTH = 6.0 G-T = G_TYPE1
* 135 * MULTIPLIER = 2.0 ..
* 136 *
* 137 * WINDOW HEIGHT = 4.0 WIDTH = 4.0 G-T = G_TYPE1
* 138 * MULTIPLIER = 4.0 ..
* 139 *
* 140 * WINDOW HEIGHT = 7.5 WIDTH = 3.0 G-T = G_TYPE1
* 141 * MULTIPLIER = 2.0 ..
* 142 *
* 143 * WINDOW HEIGHT = 4.0 WIDTH = 27.0 G-T = G_TYPE1 ..
* 144 *
* 145 * E-W HEIGHT = 9.0 WIDTH = 159.0 CONS = WALL_CON
* 146 * AZIMUTH = 135 ..
* 147 *
* 148 * WINDOW HEIGHT = 4.0 WIDTH = 4.0 G-T = G_TYPE1
* 149 * MULTIPLIER = 2.0 ..
* 150 *
* 151 * WINDOW HEIGHT = 4.0 WIDTH = 15.0 G-T = G_TYPE1
* 152 * MULTIPLIER = 3.0 ..
* 153 *
* 154 * WINDOW HEIGHT = 10.5 WIDTH = 10.5 G-T = G_TYPE1 ..
* 155 *
* 156 * E-W HEIGHT = 9.0 WIDTH = 129.5 CONS = WALL_CON
* 157 * AZIMUTH = 225 ..
* 158 *
* 159 * WINDOW HEIGHT = 4.0 WIDTH = 27.0 G-T = G_TYPE1 ..
* 160 *
* 161 * WINDOW HEIGHT = 4.0 WIDTH = 4.0 G-T = G_TYPE1 ..
* 162 *
* 163 * WINDOW HEIGHT = 7.5 WIDTH = 3.0 G-T = G_TYPE1
* 164 * MULTIPLIER = 2.0 ..
* 165 *
* 166 * E-W HEIGHT = 9.0 WIDTH = 159.0 CONS = WALL_CON
* 167 * AZIMUTH = 315 ..
* 168 *
* 169 * WINDOW HEIGHT = 7.5 WIDTH = 7.5 G-T = G_TYPE1 ..
* 170 *
* 171 * WINDOW HEIGHT = 4.0 WIDTH = 4.0 G-T = G_TYPE1 ..
* 172 *
* 173 * WINDOW HEIGHT = 4.0 WIDTH = 6.0 G-T = G_TYPE1 ..
* 174 *
* 175 * END ..
* 176 * COMPUTE LOADS ..
* 177 * INPUT SYSTEMS ..

```

SDL PROCESSOR INPUT DATA

3/18/1995 17:22: 6 SDL RUN 1

```

* 178 *
* 179 *
* 180 *          $-----$
* 181 *          $ E Z - D O E   S Y S T E M S   I N P U T $
* 182 *          $-----$
* 183 *
* 184 *          $ GENERAL PROJECT DATA
* 185 *
* 186 * TITLE LINE-1 * EMC ENGINEERS INC. *
* 187 * LINE-2 * EZDOE - ELITE SOFTWARE DEVELOPMENT INC *
* 188 * LINE-3 * DENVER, CO 80227 *
* 189 *
* 190 * LINE-4 * BUILDING 10205, DENTAL CLINIC *
* 191 * LINE-5 * SETBACK, DDC, AND FORCED VENTILATION * ..
* 192 * ABORT ERRORS ..
* 193 * DIAGNOSTIC WARNINGS ..
* 194 * SYSTEMS-REPORT SUMMARY=(SS-A,SS-C,SS-H,SS-J,SS-K,SS-O) ..
* 195 *
* 196 *          $ SCHEDULES
* 197 *
* 198 * FULL_ON_D =DAY-SCHEDULE (1,24) (1.) ..
* 199 * FULL_OFF_D =DAY-SCHEDULE (1,24) (0.) ..
* 200 * HEAT_70_D =DAY-SCHEDULE (1,24) (69.) ..
* 201 * COOL_71_D =DAY-SCHEDULE (1,24) (72.) ..
* 202 * SB_FAN_D =DAY-SCHEDULE (1,4) (0.)
* 203 * (5,17) (1.)
* 204 * (18,24) (0.) ..
* 205 * HT_W_SB_D =DAY-SCHEDULE (1,4) (50.)
* 206 * (5,17) (68.)
* 207 * (18,24) (50.) ..
* 208 * CL_W_SB_D =DAY-SCHEDULE (1,4) (85.)
* 209 * (5,17) (78.)
* 210 * (18,24) (85.) ..
* 211 * 50_D =DAY-SCHEDULE (1,24) (50.) ..
* 212 * 85_D =DAY-SCHEDULE (1,24) (85.) ..
* 213 * MINOA_FV_D =DAY-SCHEDULE (1,5) (0.)
* 214 * (6,17) (0.18)
* 215 * (18,24) (0.) ..
* 216 *
* 217 * FULL_ON_W =WEEK-SCHEDULE (ALL) FULL_ON_D ..
* 218 *
* 219 * FULL_OFF_W =WEEK-SCHEDULE (ALL) FULL_OFF_D ..
* 220 *
* 221 * HEAT_70_W =WEEK-SCHEDULE (ALL) HEAT_70_D ..
* 222 *
* 223 * COOL_71_W =WEEK-SCHEDULE (ALL) COOL_71_D ..
* 224 *
* 225 * SB_FAN_W =WEEK-SCHEDULE (WD) SB_FAN_D
* 226 * (WEH) FULL_OFF_D ..
* 227 *
* 228 * HT_W_SB_W =WEEK-SCHEDULE (WD) HT_W_SB_D
* 229 * (SAT) 50_D
* 230 * (SUN) 50_D
* 231 * (HOL) HT_W_SB_D ..
* 232 *
* 233 * CL_W_SB_W =WEEK-SCHEDULE (WD) CL_W_SB_D
* 234 * (SAT) 85_D
* 235 * (SUN) 85_D
* 236 * (HOL) CL_W_SB_D ..
* 237 *
* 238 * MINOA_FV_W =WEEK-SCHEDULE (ALL) MINOA_FV_D ..
* 239 *
* 240 *
* 241 * $ FULL ON SCHEDULE
* 242 * FULL_ON =SCHEDULE THRU DEC 31 FULL_ON_W ..
* 243 *
* 244 * $ FULL OFF SCHEDULE
* 245 * FULL_OFF =SCHEDULE THRU DEC 31 FULL_OFF_W ..
* 246 *
* 247 * $ FORCED VENTILATION
* 248 * MINOA_FV =SCHEDULE THRU DEC 31 MINOA_FV_W ..
* 249 *
* 250 * $ COOLING SCHEDULE 71 F
* 251 * COOL_71_Y =SCHEDULE THRU DEC 31 COOL_71_W ..
* 252 *
* 253 * SB_FAN_Y =SCHEDULE THRU DEC 31 SB_FAN_W ..
* 254 *
* 255 * HT_W_SB =SCHEDULE THRU DEC 31 HT_W_SB_W ..
* 256 *
* 257 * CL_W_SB =SCHEDULE THRU DEC 31 CL_W_SB_W ..
* 258 *
* 259 * MIN_OA_FV =SCHEDULE THRU DEC 31 MINOA_FV_W ..
* 260 *
* 261 *
* 262 *
* 263 *          $ ZONE DESCRIPTION
* 264 *
* 265 * WHOLE_BLDG =ZONE DESIGN-HEAT-T = 68.0 DESIGN-COOL-T = 78.0
* 266 * HEAT-TEMP-SCH = HT_W_SB COOL-TEMP-SCH = CL_W_SB
* 267 * ZONE-TYPE = CONDITIONED
* 268 * THERMOSTAT-TYPE = PROPORTIONAL
* 269 * BASEBOARD-CTRL = THERMOSTATIC
* 270 * BASEBOARD-RATING = -87750000. ASSIGNED-CFM = 17520.
* 271 * OUTSIDE-AIR-CFM = 3180. SIZING-OPTION = FROM-LOADS
* 272 * RATED-CFM = 17520.0 MIN-CFM-RATIO = 0.49
* 273 * EXHAUST-CFM = 3180.0 EXHAUST-STATIC = 1.5
* 274 * HEATING-CAPACITY = -400800.0
* 275 * COOLING-CAPACITY = 599000.0 ..
* 276 *
* 277 *

```

```

* 278 *           $ SYSTEM DESCRIPTION
* 279 *
* 280 * AHU_1      =SYSTEM      SYSTEM-TYPE = PMZS
* 281 *           MAX-SUPPLY-T = 135.0 MIN-SUPPLY-T = 57.0
* 282 *           HEAT-SET-T = 135.0 MIN-HUMIDITY = 30.0
* 283 *           ECONO-LIMIT-T = 65.0 ECONO-LOW-LIMIT = 55.0
* 284 *           COOL-SET-T = 57.0 SUPPLY-CFM = 17520.
* 285 *           RETURN-CFM = 14340. RATED-CFM = 17520.
* 286 *           MIN-OUTSIDE-AIR = 0.18 MIN-AIR-SCH = MINOA_FV
* 287 *           FAN-SCHEDULE = SB_FAN_Y SUPPLY-STATIC = 4.1
* 288 *           SUPPLY-EFF = 0.6 SUPPLY-MECH-EFF= 0.7
* 289 *           MOTOR-PLACEMENT = OUTSIDE-AIRFLOW
* 290 *           NIGHT-CYCLE-CTRL = CYCLE-ON-ANY RETURN-STATIC = 1.0
* 291 *           RETURN-EFF = 0.7 MIN-CFM-RATIO = 1.0
* 292 *           COOLING-CAPACITY = 599000. COOL-SH-CAP = 599000.
* 293 *           HEATING-CAPACITY = -274500. FURNACE-AUX = 0.
* 294 *           CRANKCASE-MAX-T = 0. OUTSIDE-FAN-T = 45.
* 295 *           HEAT-SOURCE = HOT-WATER
* 296 *           BASEBOARD-SOURCE = HOT-WATER
* 297 *           ZONE-NAMES = (WHOLE_BLDG) ..
* 298 *
* 299 *
* 300 *           $ HOURLY REPORT DESCRIPTION
* 301 *
* 302 * SYST1      =REPORT-BLOCK VARIABLE-TYPE = WHOLE_BLDG
* 303 *           VARIABLE-LIST = (6,7) ..
* 304 * REP1       = HOURLY-REPORT REPORT-SCHEDULE = FULL_ON
* 305 *           REPORT-BLOCK = (SYST1)
* 306 * ..
* 307 * END ..
* 308 * COMPUTE SYSTEMS ..
* 309 *
* 310 * INPUT PLANT ..

```



PDL PROCESSOR INPUT DATA

3/18/1995 17:22: 6 PDL RUN 1

```

* 311 *
* 312 *
* 313 *      $-----$
* 314 *      $ E Z - D O E   P L A N T S   I N P U T $
* 315 *      $-----$
* 316 *
* 317 *      $ GENERAL PROJECT DATA
* 318 *
* 319 * TITLE LINE-1 * EMC ENGINEERS INC. *
* 320 * LINE-2 *EZDOE - ELITE SOFTWARE DEVELOPMENT INC*
* 321 * LINE-3 * DENVER, CO 80227 *
* 322 *
* 323 * LINE-4 *BUILDING 10205, DENTAL CLINIC *
* 324 * LINE-5 *SETBACK, DDC, AND FORCED VENTILATION * ..
* 325 *
* 326 * ABORT ERRORS ..
* 327 * DIAGNOSTIC WARNINGS ..
* 328 * PLANT-REPORT SUMMARY=(PS-A,PS-B,BEPS)
* 329 * ..
* 330 *
* 331 *      $ SCHEDULES
* 332 *
* 333 * FULL_ON_D =DAY-SCHEDULE (1,24) (1.) ..
* 334 *
* 335 *
* 336 * FULL_ON_W =WEEK-SCHEDULE (ALL) FULL_ON_D ..
* 337 *
* 338 *
* 339 * $ FULL ON SCHEDULE
* 340 * FULL_ON =SCHEDULE THRU DEC 31 FULL_ON_W ..
* 341 *
* 342 *
* 343 *
* 344 *      $ EQUIPMENT DESCRIPTION
* 345 *
* 346 * HX =PLANT-EQUIPMENT TYPE = HTANK-STORAGE
* 347 * SIZE = 0.9 ..
* 348 *
* 349 * PLANT-PARAMETERS OPEN-REC-COND-TYPE = AIR OPEN-CENT-COND-PWR = 0.13
* 350 * OPEN-REC-COND-PWR = 0.19 HCIRC-HEAD = 25.0 ..
* 351 *
* 352 *
* 353 * ENERGY-RESOURCE RESOURCE = ELECTRICITY ..
* 354 * ENERGY-RESOURCE RESOURCE = STEAM SOURCE-SITE-EFF = 1.000 ..
* 355 *
* 356 * ENERGY-STORAGE HEAT-STORE-RATE = 0.94 HEAT-SUPPLY-RATE = 0.94
* 357 * HTANK-BASE-T = 195.0 HTANK-T-RANGE = 50.0
* 358 * HEAT-STORE-SCH = FULL_ON ..
* 359 *
* 360 * HEAT-RECOVERY
* 361 * SUPPLY-1 = (HTANK-STORAGE)
* 362 * DEMAND-1 = (SPACE-HEAT,PROCESS-HEAT) ..
* 363 *
* 364 *
* 365 *
* 366 * END ..
* 367 * COMPUTE PLANT ..
* 368 * STOP ..

```

ENERGY TYPE IN SITE MBTU-	STEAM	ELECTRICITY	RECOVERED
CATEGORY OF USE			
SPACE HEAT	965.27	46.08	
SPACE COOL	0.00	73.74	
HVAC AUX	0.00	200.14	
DOM HOT WTR	159.00	0.00	
AUX SOLAR	0.00	0.00	
LIGHTS	0.00	201.66	
VERT TRANS	0.00	0.00	
MISC EQUIP	0.00	350.79	
	-----	-----	
TOTAL	1,124.27	872.42	

TOTAL SITE ENERGY 1996.73 MBTU 103.8 KBTU/SQFT-YR GROSS-AREA 103.8 KBTU/SQFT-YR NET-AREA  
 TOTAL SOURCE ENERGY 3744.22 MBTU 194.6 KBTU/SQFT-YR GROSS-AREA 194.6 KBTU/SQFT-YR NET-AREA

PERCENT OF HOURS ANY SYSTEM ZONE OUTSIDE OF THROTTLING RANGE = 0.0  
 PERCENT OF HOURS ANY PLANT LOAD NOT SATISFIED = 0.0

NOTE ELECTRICITY AND/OR FUEL USED TO GENERATE ELECTRICITY IS APPORTIONED BASED  
 ON THE YEARLY DEMAND. ALL OTHER ENERGY TYPES ARE APPORTIONED HOURLY.

MO	UTILITY-	STEAM	ELECTRICITY
JAN	TOTAL (MBTU)	207.704	75.652
	PEAK (KBTU)	1232.546	340.660
	DY/HR	24/ 5	6/17
FEB	TOTAL (MBTU)	156.806	65.872
	PEAK (KBTU)	1184.084	324.191
	DY/HR	14/ 5	4/17
MAR	TOTAL (MBTU)	152.697	78.897
	PEAK (KBTU)	1084.770	329.559
	DY/HR	28/ 5	8/17
APR	TOTAL (MBTU)	91.616	70.237
	PEAK (KBTU)	921.145	333.306
	DY/HR	4/ 5	13/17
MAY	TOTAL (MBTU)	61.334	72.145
	PEAK (KBTU)	753.166	365.882
	DY/HR	16/ 5	4/17
JUN	TOTAL (MBTU)	27.163	77.653
	PEAK (KBTU)	253.464	358.082
	DY/HR	8/ 5	28/17
JUL	TOTAL (MBTU)	19.176	75.216
	PEAK (KBTU)	257.684	413.236
	DY/HR	25/ 5	18/17
AUG	TOTAL (MBTU)	23.988	82.367
	PEAK (KBTU)	230.197	365.601
	DY/HR	22/ 5	9/17
SEP	TOTAL (MBTU)	40.103	71.875
	PEAK (KBTU)	386.688	373.457
	DY/HR	19/ 5	2/17
OCT	TOTAL (MBTU)	72.579	65.576
	PEAK (KBTU)	647.185	318.322
	DY/HR	31/ 5	6/17
NOV	TOTAL (MBTU)	112.376	64.932
	PEAK (KBTU)	1055.837	303.930
	DY/HR	28/ 5	22/17
DEC	TOTAL (MBTU)	158.747	72.017
	PEAK (KBTU)	1095.543	325.707
	DY/HR	19/ 5	30/17
ONE YEAR		1124.290	872.438
USE/PEAK		1232.546	413.236

**COMPUTER SIMULATIONS**

BUILDING 10207

# LDL PROCESSOR INPUT DATA

3/18/1995 14:13:1 LDL RUN 1

```

* 3 *
* 4 *
* 5 *      $-----$
* 6 *      $EZ-DOE LOADS INPUT$
* 7 *      $-----$
* 8 *
* 9 *      $ GENERAL PROJECT DATA
* 10 *
* 11 * TITLE LINE-1 * EMC ENGINEERS INC. *
* 12 * LINE-2 *EZDOE - ELITE SOFTWARE DEVELOPMENT INC*
* 13 * LINE-3 * DENVER, CO 80227 *
* 14 *
* 15 * LINE-4 *BUILDING 10207 EXCHANGE/CLUB *
* 16 * LINE-5 *BASE MODEL *..
* 17 *
* 18 * ABORT ERRORS ..
* 19 * DIAGNOSTIC WARNINGS ..
* 20 * LOADS-REPORT SUMMARY=(LS-A,LS-B,LS-C,LS-D,LS-E,LS-F,LS-G,
* 21 * LS-H,LS-I,LS-J,LS-K,LS-L) ..
* 22 * BUILDING-LOCATION LATITUDE = 44.0
* 23 * ALTITUDE = 655.
* 24 * AZIMUTH = -40.
* 25 * TIME-ZONE = 5
* 26 * GROSS-AREA = 18199
* 27 * HOLIDAY = NO
* 28 * SHIELDING-COEF = 0.19
* 29 * HEAT-PEAK-PERIOD = ( 6, 7)
* 30 * COOL-PEAK-PERIOD = ( 15, 16)
* 31 * X-REF = 0.0
* 32 * Y-REF = 0.0 ..
* 33 * RUN-PERIOD JAN 1 1994 THRU DEC 31 1994 ..
* 34 *
* 35 *
* 36 *      $ SCHEDULES
* 37 *
* 38 * PEOPLE =DAY-SCHEDULE (1,2) (0.8)
* 39 * (3,11) (0.)
* 40 * (12,13) (0.2)
* 41 * (14,15) (0.3)
* 42 * (16,17) (0.5)
* 43 * (18,19) (0.7)
* 44 * (20,21) (0.8)
* 45 * (22,24) (0.9) ..

```

\* 46 \*  
 \* 47 \* FULL\_ON =DAY-SCHEDULE (1,24) (1.) ..  
 \* 48 \*  
 \* 49 \* FULL\_OFFD =DAY-SCHEDULE (1,24) (0.) ..  
 \* 50 \*  
 \* 51 \* LIGHT\_ON\_D =DAY-SCHEDULE (1,2) (0.8)  
 \* 52 \* (3) (0.5)  
 \* 53 \* (4,8) (0.)  
 \* 54 \* (9,12) (0.1,0.2,0.4,0.5)  
 \* 55 \* (13,17) (0.6)  
 \* 56 \* (18,21) (0.7)  
 \* 57 \* (22,24) (0.8) ..  
 \* 58 \*  
 \* 59 \* INT\_LDS\_D =DAY-SCHEDULE (1,2) (0.3)  
 \* 60 \* (3) (0.1)  
 \* 61 \* (4,10) (0.)  
 \* 62 \* (11,14) (0.4,0.6,0.4,0.5)  
 \* 63 \* (15,17) (0.6)  
 \* 64 \* (18) (0.7)  
 \* 65 \* (19,20) (0.8)  
 \* 66 \* (21,22) (0.9)  
 \* 67 \* (23,24) (0.8,0.7) ..  
 \* 68 \*  
 \* 69 \*  
 \* 70 \* PEOPLE\_W =WEEK-SCHEDULE (ALL) PEOPLE ..  
 \* 71 \*  
 \* 72 \* LIGHTS\_WK =WEEK-SCHEDULE (ALL) LIGHT\_ON\_D ..  
 \* 73 \*  
 \* 74 \* APPLI\_WK =WEEK-SCHEDULE (ALL) INT\_LDS\_D ..  
 \* 75 \*  
 \* 76 \* CND\_WK =WEEK-SCHEDULE (ALL) FULL\_ON ..  
 \* 77 \*  
 \* 78 \* FULL\_OFFW =WEEK-SCHEDULE (ALL) FULL\_OFFD ..  
 \* 79 \*  
 \* 80 \* FULL\_ON\_W =WEEK-SCHEDULE (ALL) FULL\_ON ..  
 \* 81 \*  
 \* 82 \*  
 \* 83 \* \$ PEOPLE SCHEDULE  
 \* 84 \* OCCUPANCY =SCHEDULE THRU DEC 31 PEOPLE\_W ..  
 \* 85 \*  
 \* 86 \* \$ LOADS SCHED  
 \* 87 \* INTLOADS =SCHEDULE THRU DEC 31 APPLI\_WK ..  
 \* 88 \*  
 \* 89 \* \$ LIGHTING SCHEDULE  
 \* 90 \* LIGHTS\_ON =SCHEDULE THRU DEC 31 LIGHTS\_WK ..  
 \* 91 \*  
 \* 92 \* \$ APPLIANCE SCHEDULE  
 \* 93 \* APPLI\_ON =SCHEDULE THRU DEC 31 APPLI\_WK ..  
 \* 94 \*  
 \* 95 \* \$ COND VENTIL SCHED

\* 96 \* CND\_SCHED =SCHEDULE THRU FEB 28 FULL\_OFFW  
 \* 97 \*           THRU NOV 30 CND\_WK  
 \* 98 \*           THRU DEC 31 FULL\_OFFW ..  
 \* 99 \*  
 \* 100 \* FULL\_ON\_SD =SCHEDULE THRU DEC 31 FULL\_ON\_W ..  
 \* 101 \*  
 \* 102 \*  
 \* 103 \*  
 \* 104 \*           \$ CONSTRUCTION TYPES  
 \* 105 \*  
 \* 106 \*  
 \* 107 \*  
 \* 108 \*  
 \* 109 \* \$ R00F CONSTRUCTION  
 \* 110 \* ROOFCON =CONSTRUCTION U-VALUE = 0.050 ..  
 \* 111 \*  
 \* 112 \* \$ EXTERIOR WALL CONSTRUCTION  
 \* 113 \* EXWALL =CONSTRUCTION U-VALUE = 0.200 ..  
 \* 114 \*  
 \* 115 \* \$ INTERIOR WALL CONSTRUCTION  
 \* 116 \* INWALL =CONSTRUCTION U-VALUE = 0.500 ..  
 \* 117 \*  
 \* 118 \* \$ DOOR CONSTRUCTION  
 \* 119 \* DOORCON =CONSTRUCTION U-VALUE = 1.000 ..  
 \* 120 \*  
 \* 121 \* \$ FLOOR\_SLAB  
 \* 122 \* FLOOR =CONSTRUCTION U-VALUE = 0.100 ..  
 \* 123 \* IMAGWALL =CONSTRUCTION U-VALUE = 20.000 ..  
 \* 124 \*  
 \* 125 \* GTYPE\_1 =GLASS-TYPE SHADING-COEF = 0.800  
 \* 126 \*           PANES = 1  
 \* 127 \*           GLASS-CONDUCTANCE = 1.130 ..  
 \* 128 \* GTYPE\_2 =GLASS-TYPE SHADING-COEF = 0.300  
 \* 129 \*           PANES = 1  
 \* 130 \*           GLASS-CONDUCTANCE = 0.790 ..  
 \* 131 \* GTYPE\_3 =GLASS-TYPE SHADING-COEF = 0.400  
 \* 132 \*           PANES = 1  
 \* 133 \*           GLASS-CONDUCTANCE = 0.360 ..  
 \* 134 \*  
 \* 135 \*  
 \* 136 \*  
 \* 137 \*  
 \* 138 \*           \$ SPACE DESCRIPTION  
 \* 139 \*  
 \* 140 \* RETAILSALS =SPACE AREA = 3910.0 VOLUME = 35190.0  
 \* 141 \*           TEMPERATURE = (65.) ZONE-TYPE = CONDITIONED  
 \* 142 \*           PEOPLE-SCHEDULE = OCCUPANCY NUMBER-OF-PEOPLE = 15.0  
 \* 143 \*           PEOPLE-HEAT-GAIN = 550.0  
 \* 144 \*           LIGHTING-TYPE = REC-FLUOR-RV LIGHTING-KW = 4.4  
 \* 145 \*           LIGHTING-SCHEDULE = LIGHTS\_ON

\* 146 \*           EQUIP-SCHEDULE = INTLOADS   EQUIPMENT-KW = 2.0  
 \* 147 \*           INF-METHOD = AIR-CHANGE   AIR-CHANGES/HR = 0.15  
 \* 148 \*           INF-SCHEDULE = FULL\_ON\_SD ..  
 \* 149 \*  
 \* 150 \*       E-W    HEIGHT = 9.0   WIDTH = 71.0   CONS = EXWALL  
 \* 151 \*           AZIMUTH = 0 ..  
 \* 152 \*  
 \* 153 \*       DOOR   HEIGHT = 7.0   WIDTH = 3.0   CONS = DOORCON ..  
 \* 154 \*  
 \* 155 \*       ROOF   HEIGHT = 52.0   WIDTH = 71.0   CONS = ROOFCON  
 \* 156 \*           TILT = 0 ..  
 \* 157 \*  
 \* 158 \*       U-W    HEIGHT = 52.0   WIDTH = 71.0   CONS = FLOOR ..  
 \* 159 \*  
 \* 160 \*       I-W    HEIGHT = 9.0   WIDTH = 48.0   CONS = INWALL  
 \* 161 \*           NEXT-TO = KITCHEN ..  
 \* 162 \*  
 \* 163 \*  
 \* 164 \* LOBBY    =SPACE   AREA = 5440.0   VOLUME = 48960.0  
 \* 165 \*           TEMPERATURE = (65.)   ZONE-TYPE = CONDITIONED  
 \* 166 \*           PEOPLE-SCHEDULE = OCCUPANCY   NUMBER-OF-PEOPLE = 100.0  
 \* 167 \*           PEOPLE-HEAT-GAIN = 1000.0   LIGHTING-TYPE = INCAND  
 \* 168 \*           LIGHTING-KW = 10.8   LIGHTING-SCHEDULE = LIGHTS\_ON  
 \* 169 \*           EQUIP-SCHEDULE = INTLOADS   EQUIPMENT-KW = 2.0  
 \* 170 \*           INF-METHOD = AIR-CHANGE   AIR-CHANGES/HR = 0.25  
 \* 171 \*           INF-SCHEDULE = FULL\_ON\_SD ..  
 \* 172 \*  
 \* 173 \*       E-W    HEIGHT = 9.0   WIDTH = 147.0   CONS = EXWALL  
 \* 174 \*           AZIMUTH = 180 ..  
 \* 175 \*  
 \* 176 \*       E-W    HEIGHT = 9.0   WIDTH = 32.0   CONS = EXWALL  
 \* 177 \*           AZIMUTH = 270 ..  
 \* 178 \*  
 \* 179 \*       E-W    HEIGHT = 9.0   WIDTH = 38.0   CONS = EXWALL  
 \* 180 \*           AZIMUTH = 90 ..  
 \* 181 \*  
 \* 182 \*       U-W    HEIGHT = 147.0   WIDTH = 38.0   CONS = FLOOR ..  
 \* 183 \*  
 \* 184 \*       ROOF   HEIGHT = 136.0   WIDTH = 40.0   CONS = ROOFCON  
 \* 185 \*           TILT = 0 ..  
 \* 186 \*  
 \* 187 \*  
 \* 188 \* FOODAREA =SPACE   AREA = 3072.0   VOLUME = 27648.0  
 \* 189 \*           TEMPERATURE = (65.)   ZONE-TYPE = CONDITIONED  
 \* 190 \*           PEOPLE-SCHEDULE = OCCUPANCY   NUMBER-OF-PEOPLE = 150.0  
 \* 191 \*           PEOPLE-HEAT-GAIN = 1000.0   LIGHTING-TYPE = INCAND  
 \* 192 \*           LIGHTING-KW = 8.6   LIGHTING-SCHEDULE = LIGHTS\_ON  
 \* 193 \*           EQUIP-SCHEDULE = INTLOADS   EQUIPMENT-KW = 47.5  
 \* 194 \*           SOURCE-SCHEDULE = FULL\_ON\_SD   SOURCE-TYPE = HOT-WATER  
 \* 195 \*           SOURCE-BTU/HR = 6849.0   SOURCE-SENSIBLE = 0.3



**COMPUTER SIMULATIONS**  
**BUILDING 10207**

**BASE RUN**

\* 196 \* SOURCE-LATENT = 0.4 INF-METHOD = AIR-CHANGE  
 \* 197 \* AIR-CHANGES/HR = 0.1 INF-SCHEDULE = FULL\_ON\_SD ..  
 \* 198 \*  
 \* 199 \* ROOF HEIGHT = 48.0 WIDTH = 64.0 CONS = ROOFCON  
 \* 200 \* TILT = 0 ..  
 \* 201 \*  
 \* 202 \* U-W HEIGHT = 48.0 WIDTH = 64.0 CONS = FLOOR ..  
 \* 203 \*  
 \* 204 \* I-W HEIGHT = 9.0 WIDTH = 48.0 CONS = INWALL  
 \* 205 \* NEXT-TO = KITCHEN ..  
 \* 206 \*  
 \* 207 \*  
 \* 208 \* EMCLUB =SPACE AREA = 2000.0 VOLUME = 18000.0  
 \* 209 \* TEMPERATURE = (65.) ZONE-TYPE = CONDITIONED  
 \* 210 \* PEOPLE-SCHEDULE = OCCUPANCY NUMBER-OF-PEOPLE = 300.0  
 \* 211 \* PEOPLE-HEAT-GAIN = 1360.0 PEOPLE-HG-LAT = 875.0  
 \* 212 \* PEOPLE-HG-SENS = 405.0 LIGHTING-TYPE = INCAND  
 \* 213 \* LIGHTING-KW = 6.7 LIGHTING-SCHEDULE = LIGHTS\_ON  
 \* 214 \* EQUIP-SCHEDULE = INTLOADS EQUIPMENT-KW = 4.0  
 \* 215 \* INF-METHOD = AIR-CHANGE AIR-CHANGES/HR = 0.15  
 \* 216 \* INF-SCHEDULE = FULL\_ON\_SD ..  
 \* 217 \*  
 \* 218 \* E-W HEIGHT = 9.0 WIDTH = 70.0 CONS = EXWALL  
 \* 219 \* AZIMUTH = 180 ..  
 \* 220 \*  
 \* 221 \* ROOF HEIGHT = 70.0 WIDTH = 40.0 CONS = ROOFCON  
 \* 222 \* TILT = 0 ..  
 \* 223 \*  
 \* 224 \* U-W HEIGHT = 70.0 WIDTH = 40.0 CONS = FLOOR ..  
 \* 225 \*  
 \* 226 \* I-W HEIGHT = 9.0 WIDTH = 40.0 CONS = INWALL  
 \* 227 \* NEXT-TO = KITCHEN ..  
 \* 228 \*  
 \* 229 \*  
 \* 230 \* KITCHEN =SPACE AREA = 2880.0 VOLUME = 25920.0  
 \* 231 \* TEMPERATURE = (55.) ZONE-TYPE = CONDITIONED  
 \* 232 \* PEOPLE-SCHEDULE = OCCUPANCY NUMBER-OF-PEOPLE = 20.0  
 \* 233 \* PEOPLE-HEAT-GAIN = 1000.0 LIGHTING-TYPE = INCAND  
 \* 234 \* LIGHTING-KW = 3.5 LIGHTING-SCHEDULE = LIGHTS\_ON  
 \* 235 \* EQUIP-SCHEDULE = FULL\_ON\_SD EQUIPMENT-KW = 7.0  
 \* 236 \* INF-METHOD = AIR-CHANGE AIR-CHANGES/HR = 0.2  
 \* 237 \* INF-SCHEDULE = FULL\_ON\_SD ..  
 \* 238 \*  
 \* 239 \* E-W HEIGHT = 9.0 WIDTH = 20.0 CONS = EXWALL  
 \* 240 \* AZIMUTH = 180 ..  
 \* 241 \*  
 \* 242 \* E-W HEIGHT = 9.0 WIDTH = 144.0 CONS = EXWALL  
 \* 243 \* AZIMUTH = 90 ..  
 \* 244 \*  
 \* 245 \* E-W HEIGHT = 9.0 WIDTH = 20.0 CONS = EXWALL

```

* 246 *           AZIMUTH = 0 ..
* 247 *
* 248 *       ROOF  HEIGHT = 20.0 WIDTH = 144.0 CONS = ROOFCON
* 249 *           TILT = 0 ..
* 250 *
* 251 *       U-W  HEIGHT = 20.0 WIDTH = 144.0 CONS = FLOOR ..
* 252 *
* 253 *       I-W  HEIGHT = 9.0 WIDTH = 48.0 CONS = INWALL
* 254 *           AZIMUTH = 180 NEXT-TO = RETAILSALS ..
* 255 *
* 256 *       I-W  HEIGHT = 9.0 WIDTH = 48.0 CONS = INWALL
* 257 *           AZIMUTH = 180 NEXT-TO = FOODAREA ..
* 258 *
* 259 *       I-W  HEIGHT = 9.0 WIDTH = 40.0 CONS = INWALL
* 260 *           AZIMUTH = 180 NEXT-TO = EMCLUB ..
* 261 *
* 262 *
* 263 * EMCLUB_B =SPACE  AREA = 900.0 VOLUME = 8100.0
* 264 *       TEMPERATURE = (65.) ZONE-TYPE = CONDITIONED
* 265 *       PEOPLE-SCHEDULE = OCCUPANCY
* 266 *       LIGHTING-SCHEDULE = OCCUPANCY
* 267 *       EQUIP-SCHEDULE = OCCUPANCY FLOOR-WEIGHT = 0.1
* 268 *       INF-METHOD = AIR-CHANGE ..
* 269 *
* 270 *       I-W  HEIGHT = 9.0 WIDTH = 500.0 CONS = IMAGWALL
* 271 *           AZIMUTH = 90 NEXT-TO = EMCLUB ..
* 272 *
* 273 *
* 274 * END ..
* 275 * COMPUTE LOADS ..
* 276 *
* 277 * INPUT SYSTEMS ..

```

# SDL PROCESSOR INPUT DATA

3/18/1995 14:13:1 SDL RUN 1

```

* 278 *
* 279 *
* 280 *       $-----$
* 281 *       $EZ-DOE SYSTEMS INPUT$
* 282 *       $-----$
* 283 *
* 284 *       $ GENERAL PROJECT DATA
* 285 *
* 286 * TITLE LINE-1 * EMC ENGINEERS INC. *
* 287 * LINE-2 *EZDOE - ELITE SOFTWARE DEVELOPMENT INC*

```

```

*288 *   LINE-3 *   DENVER,   CO   80227   *
*289 *
*290 *   LINE-4 *BUILDING 10207 EXCHANGE/CLUB   *
*291 *   LINE-5 *BASE MODEL   * ..
*292 *ABORT   ERRORS ..
*293 *DIAGNOSTIC   WARNINGS ..
*294 * SYSTEMS-REPORT SUMMARY=(SS-A,SS-B,SS-C,SS-D,SS-E,SS-F,SS-G,
*295 *           SS-H,SS-I,SS-J,SS-K,SS-L,SS-M,SS-N,
*296 *           SS-O) ..
*297 *
*298 *           $ SCHEDULES
*299 *
*300 *FULL_ON_D =DAY-SCHEDULE (1,24) (1.) ..
*301 *HEAT_D   =DAY-SCHEDULE (1,24) (73.) ..
*302 *COOL_D   =DAY-SCHEDULE (1,24) (75.) ..
*303 *FULL_OFF_D=DAY-SCHEDULE (1,24) (0.) ..
*304 *AHU1_SCH =DAY-SCHEDULE (1,5) (0.)
*305 *           (6,20) (1.)
*306 *           (21,24) (0.) ..
*307 *HT_AHU1_D =DAY-SCHEDULE (1,5) (55.)
*308 *           (6,20) (73.)
*309 *           (21,24) (55.) ..
*310 *AHU_SCH_D =DAY-SCHEDULE (1,2) (1.)
*311 *           (3,10) (0.)
*312 *           (11,24) (1.) ..
*313 *HT_60_D   =DAY-SCHEDULE (1,24) (55.) ..
*314 *AHU_2_ON_D=DAY-SCHEDULE (1,2) (1.)
*315 *           (3,5) (0.)
*316 *           (6,15) (1.)
*317 *           (16) (0.)
*318 *           (17,24) (1.) ..
*319 *AHU_2_HT_D=DAY-SCHEDULE (1,2) (73.)
*320 *           (3,5) (55.)
*321 *           (6,24) (73.) ..
*322 *DX_ON_D   =DAY-SCHEDULE (1,3) (1.)
*323 *           (4,18) (0.)
*324 *           (19,24) (1.) ..
*325 *
*326 *FULL_ON_W =WEEK-SCHEDULE (ALL) FULL_ON_D ..
*327 *
*328 *HEAT_W    =WEEK-SCHEDULE (ALL) HEAT_D ..
*329 *
*330 *COOL_W    =WEEK-SCHEDULE (ALL) COOL_D ..
*331 *
*332 *FULL_OFF_W=WEEK-SCHEDULE (ALL) FULL_OFF_D ..
*333 *
*334 *AHU_SCHD_W=WEEK-SCHEDULE (ALL) AHU_SCH_D ..
*335 *
*336 *AHU1_W    =WEEK-SCHEDULE (ALL) AHU1_SCH ..
*337 *

```

\* 338 \* HT\_AHU1\_W =WEEK-SCHEDULE (ALL) HT\_AHU1\_D ..  
 \* 339 \*  
 \* 340 \* HEAT\_60\_W =WEEK-SCHEDULE (ALL) HT\_60\_D ..  
 \* 341 \*  
 \* 342 \* AHU\_2\_ON\_W =WEEK-SCHEDULE (ALL) AHU\_2\_ON\_D ..  
 \* 343 \*  
 \* 344 \* AHU\_2\_HT\_W =WEEK-SCHEDULE (ALL) AHU\_2\_HT\_D ..  
 \* 345 \*  
 \* 346 \* DX\_ON\_W =WEEK-SCHEDULE (ALL) DX\_ON\_D ..  
 \* 347 \*  
 \* 348 \*  
 \* 349 \* FULL\_ON =SCHEDULE THRU DEC 31 FULL\_ON\_W ..  
 \* 350 \*  
 \* 351 \* \$ HEATING SCHEDULE  
 \* 352 \* HEAT\_ON =SCHEDULE THRU DEC 31 HEAT\_W ..  
 \* 353 \*  
 \* 354 \* \$ COOLING SCHEDULE  
 \* 355 \* COOL\_ON =SCHEDULE THRU DEC 31 COOL\_W ..  
 \* 356 \*  
 \* 357 \* FULL\_OFF =SCHEDULE THRU DEC 31 FULL\_OFF\_W ..  
 \* 358 \*  
 \* 359 \* HT\_AHU1\_SD =SCHEDULE THRU DEC 31 HT\_AHU1\_W ..  
 \* 360 \*  
 \* 361 \* \$ MATCHES OCCUPANCY  
 \* 362 \* AHU\_SCHEDL =SCHEDULE THRU DEC 31 AHU\_SCHD\_W ..  
 \* 363 \*  
 \* 364 \* AHU1\_SCHED =SCHEDULE THRU DEC 31 AHU1\_W ..  
 \* 365 \*  
 \* 366 \* HEAT\_60 =SCHEDULE THRU DEC 31 HEAT\_60\_W ..  
 \* 367 \*  
 \* 368 \* AHU\_2\_ON =SCHEDULE THRU DEC 31 AHU\_2\_ON\_W ..  
 \* 369 \*  
 \* 370 \* AHU\_2\_HT =SCHEDULE THRU DEC 31 AHU\_2\_HT\_W ..  
 \* 371 \*  
 \* 372 \* \$ 2X10TON\_DX\_UNIT\_SCHD  
 \* 373 \* DX\_ON\_SCHD =SCHEDULE THRU MAY 15 DX\_ON\_W  
 \* 374 \*           THRU NOV 30 FULL\_ON\_W  
 \* 375 \*           THRU DEC 31 DX\_ON\_W ..  
 \* 376 \*  
 \* 377 \*  
 \* 378 \*  
 \* 379 \*           \$ ZONE DESCRIPTION  
 \* 380 \*  
 \* 381 \* RETAILSALS =ZONE   DESIGN-HEAT-T = 68.0 DESIGN-COOL-T = 75.0  
 \* 382 \*           HEAT-TEMP-SCH = HT\_AHU1\_SD COOL-TEMP-SCH = COOL\_ON  
 \* 383 \*           ZONE-TYPE = CONDITIONED  
 \* 384 \*           THERMOSTAT-TYPE = PROPORTIONAL THROTTLING-RANGE = 1.0  
 \* 385 \*           ASSIGNED-CFM = 2500. OUTSIDE-AIR-CFM = 875.  
 \* 386 \*           SIZING-OPTION = FROM-LOADS RATED-CFM = 2500.0  
 \* 387 \*           MIN-CFM-RATIO = 1.0 HEATING-CAPACITY = -152200.0 ..

\* 388 \*  
 \* 389 \* LOBBY =ZONE DESIGN-HEAT-T = 68.0 DESIGN-COOL-T = 75.0  
 \* 390 \* HEAT-TEMP-SCH = AHU\_2\_HT COOL-TEMP-SCH = COOL\_ON  
 \* 391 \* ZONE-TYPE = CONDITIONED  
 \* 392 \* THERMOSTAT-TYPE = PROPORTIONAL THROTTLING-RANGE = 1.0  
 \* 393 \* BASEBOARD-CTRL = THERMOSTATIC ASSIGNED-CFM = 4500.  
 \* 394 \* OUTSIDE-AIR-CFM = 1575. SIZING-OPTION = FROM-LOADS  
 \* 395 \* RATED-CFM = 4500.0 MIN-CFM-RATIO = 0.4  
 \* 396 \* HEATING-CAPACITY = -278000.0 ..  
 \* 397 \*  
 \* 398 \* FOODAREA =ZONE DESIGN-HEAT-T = 68.0 DESIGN-COOL-T = 75.0  
 \* 399 \* HEAT-TEMP-SCH = HEAT\_ON COOL-TEMP-SCH = COOL\_ON  
 \* 400 \* ZONE-TYPE = CONDITIONED  
 \* 401 \* THERMOSTAT-TYPE = PROPORTIONAL THROTTLING-RANGE = 1.0  
 \* 402 \* BASEBOARD-CTRL = THERMOSTATIC ASSIGNED-CFM = 4900.  
 \* 403 \* OUTSIDE-AIR-CFM = 1715. SIZING-OPTION = FROM-LOADS  
 \* 404 \* RATED-CFM = 4900.0 MIN-CFM-RATIO = 1.0  
 \* 405 \* HEATING-CAPACITY = -201000.0 ..  
 \* 406 \*  
 \* 407 \* EMCLUB =ZONE DESIGN-HEAT-T = 68.0 DESIGN-COOL-T = 75.0  
 \* 408 \* HEAT-TEMP-SCH = HEAT\_ON COOL-TEMP-SCH = COOL\_ON  
 \* 409 \* ZONE-TYPE = CONDITIONED  
 \* 410 \* THERMOSTAT-TYPE = PROPORTIONAL THROTTLING-RANGE = 1.0  
 \* 411 \* ASSIGNED-CFM = 4000. OUTSIDE-AIR-CFM = 1400.  
 \* 412 \* SIZING-OPTION = FROM-LOADS RATED-CFM = 4000.0  
 \* 413 \* MIN-CFM-RATIO = 1.0 HEATING-CAPACITY = -138000.0 ..  
 \* 414 \*  
 \* 415 \* KITCHEN =ZONE DESIGN-HEAT-T = 68.0 DESIGN-COOL-T = 90.0  
 \* 416 \* HEAT-TEMP-SCH = HEAT\_60 COOL-TEMP-SCH = COOL\_ON  
 \* 417 \* ZONE-TYPE = CONDITIONED  
 \* 418 \* THERMOSTAT-TYPE = PROPORTIONAL THROTTLING-RANGE = 1.0  
 \* 419 \* BASEBOARD-CTRL = THERMOSTATIC  
 \* 420 \* BASEBOARD-RATING = -72433. ASSIGNED-CFM = 1200.  
 \* 421 \* OUTSIDE-AIR-CFM = 420. SIZING-OPTION = FROM-LOADS  
 \* 422 \* RATED-CFM = 1200.0 MIN-CFM-RATIO = 1.0 ..  
 \* 423 \*  
 \* 424 \* EMCLUB\_B =ZONE DESIGN-HEAT-T = 68.0 DESIGN-COOL-T = 75.0  
 \* 425 \* ZONE-TYPE = CONDITIONED  
 \* 426 \* THERMOSTAT-TYPE = PROPORTIONAL THROTTLING-RANGE = 1.0  
 \* 427 \* BASEBOARD-CTRL = THERMOSTATIC ASSIGNED-CFM = 800.  
 \* 428 \* OUTSIDE-AIR-CFM = 800. SIZING-OPTION = FROM-LOADS  
 \* 429 \* RATED-CFM = 800.0 MIN-CFM-RATIO = 1.0  
 \* 430 \* EXHAUST-CFM = 800.0 ..  
 \* 431 \*  
 \* 432 \*  
 \* 433 \* \$ SYSTEM DESCRIPTION  
 \* 434 \*  
 \* 435 \* AHU\_1 =SYSTEM SYSTEM-TYPE = SZRH  
 \* 436 \* MAX-SUPPLY-T = 135.0 MIN-SUPPLY-T = 57.0  
 \* 437 \* HEAT-SET-T = 135.0 PREHEAT-T = 41.0

\* 438 \*           MIN-HUMIDITY = 30.0 ECONO-LIMIT-T = 65.0  
 \* 439 \*           ECONO-LOW-LIMIT = 55.0 OA-CONTROL = FIXED  
 \* 440 \*           SUPPLY-CFM = 2500. RETURN-CFM = 1625.  
 \* 441 \*           RATED-CFM = 2500. MIN-OUTSIDE-AIR = 0.35  
 \* 442 \*           FAN-SCHEDULE = AHU1\_SCHED SUPPLY-DELTA-T = 2.4  
 \* 443 \*           SUPPLY-KW = 0.0009 NIGHT-CYCLE-CTRL = CYCLE-ON-ANY  
 \* 444 \*           NIGHT-VENT-DT = 0.0 MIN-CFM-RATIO = 1.0  
 \* 445 \*           REHEAT-DELTA-T = 50. COOLING-CAPACITY = 100000.  
 \* 446 \*           FURNACE-AUX = 0. RETURN-AIR-PATH = DUCT  
 \* 447 \*           ZONE-NAMES = (RETAILSALS) ..  
 \* 448 \*  
 \* 449 \* AHU\_3   =SYSTEM SYSTEM-TYPE = SZRH  
 \* 450 \*           MAX-SUPPLY-T = 135.0 MIN-SUPPLY-T = 57.0  
 \* 451 \*           HEAT-SET-T = 135.0 PREHEAT-T = 41.0  
 \* 452 \*           MIN-HUMIDITY = 30.0 ECONO-LIMIT-T = 65.0  
 \* 453 \*           ECONO-LOW-LIMIT = 55.0 OA-CONTROL = FIXED  
 \* 454 \*           SUPPLY-CFM = 6100. RETURN-CFM = 4700.  
 \* 455 \*           RATED-CFM = 6100. MIN-OUTSIDE-AIR = 0.35  
 \* 456 \*           SUPPLY-DELTA-T = 2.4 SUPPLY-KW = 0.00092  
 \* 457 \*           NIGHT-CYCLE-CTRL = STAY-OFF NIGHT-VENT-DT = 0.0  
 \* 458 \*           MIN-CFM-RATIO = 1.0 REHEAT-DELTA-T = 50.  
 \* 459 \*           COOLING-CAPACITY = 260500. FURNACE-AUX = 0.  
 \* 460 \*           RETURN-AIR-PATH = DUCT  
 \* 461 \*           ZONE-NAMES = (FOODAREA, KITCHEN) ..  
 \* 462 \*  
 \* 463 \* AHU\_4   =SYSTEM SYSTEM-TYPE = SZRH  
 \* 464 \*           MAX-SUPPLY-T = 135.0 MIN-SUPPLY-T = 57.0  
 \* 465 \*           HEAT-SET-T = 135.0 PREHEAT-T = 41.0  
 \* 466 \*           MIN-HUMIDITY = 30.0 ECONO-LIMIT-T = 65.0  
 \* 467 \*           ECONO-LOW-LIMIT = 55.0 OA-CONTROL = FIXED  
 \* 468 \*           SUPPLY-CFM = 4000. RETURN-CFM = 2600.  
 \* 469 \*           RATED-CFM = 4000. MIN-OUTSIDE-AIR = 0.35  
 \* 470 \*           SUPPLY-DELTA-T = 2.4 SUPPLY-KW = 0.00078  
 \* 471 \*           NIGHT-CYCLE-CTRL = STAY-OFF NIGHT-VENT-DT = 0.0  
 \* 472 \*           MIN-CFM-RATIO = 1.0 REHEAT-DELTA-T = 50.  
 \* 473 \*           COOLING-CAPACITY = 240000. FURNACE-AUX = 0.  
 \* 474 \*           RETURN-AIR-PATH = DUCT  
 \* 475 \*           ZONE-NAMES = (EMCLUB) ..  
 \* 476 \*  
 \* 477 \* AHU\_2   =SYSTEM SYSTEM-TYPE = VAVS  
 \* 478 \*           MAX-SUPPLY-T = 135.0 MIN-SUPPLY-T = 57.0  
 \* 479 \*           PREHEAT-T = 41.0 MIN-HUMIDITY = 30.0  
 \* 480 \*           ECONO-LIMIT-T = 65.0 ECONO-LOW-LIMIT = 55.0  
 \* 481 \*           COOL-CONTROL = WARMEST OA-CONTROL = FIXED  
 \* 482 \*           SUPPLY-CFM = 4500. RETURN-CFM = 2925.  
 \* 483 \*           RATED-CFM = 4500. MIN-OUTSIDE-AIR = 0.35  
 \* 484 \*           FAN-SCHEDULE = AHU\_2\_ON SUPPLY-DELTA-T = 3.4  
 \* 485 \*           SUPPLY-KW = 0.00109 NIGHT-CYCLE-CTRL = CYCLE-ON-ANY  
 \* 486 \*           NIGHT-VENT-DT = 0.0 MIN-CFM-RATIO = 0.4  
 \* 487 \*           REHEAT-DELTA-T = 50. COOLING-CAPACITY = 214300.

```

*488 *          FURNACE-AUX = 0. SIZING-OPTION = COINCIDENT
*489 *          ZONE-NAMES = (LOBBY) ..
*490 *
*491 * DX_UNITS =SYSTEM  SYSTEM-TYPE = PSZ
*492 *          MAX-SUPPLY-T = 65.0 MIN-SUPPLY-T = 65.0
*493 *          HEATING-SCHEDULE = FULL_OFF
*494 *          COOLING-SCHEDULE = DX_ON_SCHD OA-CONTROL = FIXED
*495 *          SUPPLY-CFM = 800. RATED-CFM = 800.
*496 *          MIN-OUTSIDE-AIR = 1.0 FAN-SCHEDULE = DX_ON_SCHD
*497 *          SUPPLY-DELTA-T = 1.82 SUPPLY-KW = 0.000587
*498 *          NIGHT-CYCLE-CTRL = STAY-OFF NIGHT-VENT-DT = 0.0
*499 *          COOLING-CAPACITY = 24000. COOL-SH-CAP = 18555.
*500 *          COOL-FT-MIN = 0. FURNACE-AUX = 0.
*501 *          CRANKCASE-MAX-T = 0. OUTSIDE-FAN-T = 45.
*502 *          ZONE-NAMES = (EMCLUB_B) ..
*503 *
*504 * END ..
*505 * COMPUTE SYSTEMS ..
*506 *
*507 * INPUT PLANT ..

```

# PDL PROCESSOR INPUT DATA

3/18/1995 14:13:1 PDL RUN 1

```

*508 *
*509 *
*510 *          $-----$
*511 *          $EZ-DOE PLANTS INPUT$
*512 *          $-----$
*513 *
*514 *          $ GENERAL PROJECT DATA
*515 *
*516 * TITLE LINE-1* EMC ENGINEERS INC. *
*517 * LINE-2 *EZDOE - ELITE SOFTWARE DEVELOPMENT INC*
*518 * LINE-3* DENVER, CO 80227 *
*519 *
*520 * LINE-4 *BUILDING 10207 EXCHANGE/CLUB *
*521 * LINE-5 *BASE MODEL *..
*522 *
*523 * ABORT          ERRORS ..
*524 * DIAGNOSTIC     WARNINGS ..
*525 * PLANT-REPORT   SUMMARY=(PS-A,PS-B,PS-C,PS-D,PS-G,PS-H,PS-I,
*526 *                BEPS)
*527 * ..
*528 *
*529 *          $ SCHEDULES

```



```

* 530 *
* 531 * DAY_ON   =DAY-SCHEDULE (1,7) (0.)
* 532 *         (8,18) (1.)
* 533 *         (19,24) (0.) ..
* 534 *
* 535 *
* 536 * FULL_ON  =WEEK-SCHEDULE (ALL) DAY_ON ..
* 537 *
* 538 *
* 539 * $ heating plant schedule
* 540 * heating  =SCHEDULE THRU DEC 31 FULL_ON ..
* 541 *
* 542 *
* 543 *
* 544 *         $ EQUIPMENT DESCRIPTION
* 545 *
* 546 * BOILER   =PLANT-EQUIPMENT TYPE = HW-BOILER
* 547 *         SIZE = 0.8 ..
* 548 *
* 549 * CHILLER  =PLANT-EQUIPMENT TYPE = OPEN-REC-CHLR
* 550 *         SIZE = 0.9 ..
* 551 *
* 552 * PLANT-PARAMETERS  BOILER-FUEL = NATURAL-GAS BOILER-CONTROL = STANDBY
* 553 *         MAKEUP-WTR-T = 50. STM-BOILER-HIR = 0.76
* 554 *         HW-BOILER-HIR = 1.27 CHILLER-CONTROL = STANDBY
* 555 *         OPEN-REC-COND-TYPE = AIR HERM-REC-COND-TYPE = AIR
* 556 *         MIN-COND-AIR-T = 35. CCIRC-HEAD = 80.0
* 557 *         HCIRC-HEAD = 40.0 ..
* 558 *
* 559 *
* 560 * PART-LOAD-RATIO TYPE = HW-BOILER
* 561 *         MIN-RATIO   = 0.2500 MAX-RATIO   = 1.0000
* 562 *         OPERATING-RATIO = 1.0000 ELEC-INPUT-RATIO = 0.0220 ..
* 563 *
* 564 * ENERGY-RESOURCE  RESOURCE = ELECTRICITY ..
* 565 * ENERGY-RESOURCE  RESOURCE = NATURAL-GAS ..
* 566 *
* 567 *
* 568 *
* 569 * END ..
* 570 * COMPUTE PLANT ..
* 571 * STOP ..

```

ENERGY TYPE IN SITE MBTU-	ELECTRICITY	NATURAL-GAS
CATEGORY OF USE		
SPACE HEAT	68.11	1760.54
SPACE COOL	450.38	0.00
HVAC AUX	491.90	0.00
DOM HOT WTR	4.74	96.66
AUX SOLAR	0.00	0.00
LIGHTS	487.09	0.00
VERT TRANS	0.00	0.00
MISC EQUIP	900.63	0.00
	-----	-----
TOTAL	2402.83	1857.20

TOTAL SITE ENERGY 4260.04 MBTU 234.1 KBTU/SQFT-YR GROSS-AREA 234.0 KBTU/SQFT-YR NET-AREA  
 TOTAL SOURCE ENERGY 9073.01 MBTU 498.5 KBTU/SQFT-YR GROSS-AREA 498.5 KBTU/SQFT-YR NET-AREA

PERCENT OF HOURS ANY SYSTEM ZONE OUTSIDE OF THROTTLING RANGE = 56.7  
 PERCENT OF HOURS ANY PLANT LOAD NOT SATISFIED = 0.3

NOTE ELECTRICITY AND/OR FUEL USED TO GENERATE ELECTRICITY IS APPORTIONED BASED  
 ON THE YEARLY DEMAND. ALL OTHER ENERGY TYPES ARE APPORTIONED HOURLY.

MO	UTILITY- ELECTRICITY	NATURAL-GAS
JAN	TOTAL(MBTU)	178.284
	PEAK(KBTU)	374.342
	DY/HR	1016
		12/23
		26/12
FEB	TOTAL(MBTU)	161.009
	PEAK(KBTU)	295.042
	DY/HR	963.966
		19/22
		8/ 7
MAR	TOTAL(MBTU)	179.77
	PEAK(KBTU)	280.371
	DY/HR	1016
		12/22
		9/ 7
APR	TOTAL(MBTU)	187.16
	PEAK(KBTU)	143.419
	DY/HR	757.559
		15/22
		3/ 7
MAY	TOTAL(MBTU)	207.963
	PEAK(KBTU)	76.503
	DY/HR	561.474
		23/22
		16/ 8
JUN	TOTAL(MBTU)	223.911
	PEAK(KBTU)	25.951
	DY/HR	261.281
		28/19
		8/ 6
JUL	TOTAL(MBTU)	250.979
	PEAK(KBTU)	19.79
	DY/HR	167.484
		17/20
		25/ 6
AUG	TOTAL(MBTU)	238.516
	PEAK(KBTU)	21.693
	DY/HR	187.673
		9/22
		22/ 6
SEP	TOTAL(MBTU)	216.406
	PEAK(KBTU)	38.161
	DY/HR	495.267
		1/22
		24/ 7
OCT	TOTAL(MBTU)	199.094
	PEAK(KBTU)	94.002
	DY/HR	677.879
		17/22
		28/ 8
NOV	TOTAL(MBTU)	179.327
	PEAK(KBTU)	190.557
	DY/HR	905.683
		12/22
		29/ 7

DEC	TOTAL(MBTU)	180.456	297.337
	PEAK(KBTU)	453.884	987.47
	DY/HR	9/22	28/ 7
	ONE YEAR	2402.874	1857.169
	USE/PEAK	562.164	1016

**COMPUTER SIMULATIONS**  
BUILDING 10207

RUN 1 - SCHEDULE START/STOP AND NIGHT SETBACK

LDL PROCESSOR INPUT DATA

3/18/1995 17:32:11 LDL RUN 1

```

* 3 *
* 4 *
* 5 *
* 6 *
* 7 *
* 8 *
* 9 *
* 10 *
* 11 * TITLE LINE-1 * EMC ENGINEERS INC. *
* 12 * LINE-2 *EZDOE - ELITE SOFTWARE DEVELOPMENT INC*
* 13 * LINE-3 * DENVER, CO 80227 *
* 14 *
* 15 * LINE-4 *BUILDING 10207 EXCHANGE/CLUB *
* 16 * LINE-5 *MODEL WITH NIGHT SETBACK * ..
* 17 *
* 18 * ABORT ERRORS ..
* 19 * DIAGNOSTIC WARNINGS ..
* 20 * LOADS-REPORT SUMMARY=(LS-A,LS-B,LS-C,LS-D,LS-E,LS-F,LS-G,
* 21 * LS-H,LS-I,LS-J,LS-K,LS-L) ..
* 22 * BUILDING-LOCATION LATITUDE = 44.0
* 23 * ALTITUDE = 655.
* 24 * AZIMUTH = -40.
* 25 * TIME-ZONE = 5
* 26 * GROSS-AREA = 18199
* 27 * HOLIDAY = NO
* 28 * SHIELDING-COEF = 0.19
* 29 * HEAT-PEAK-PERIOD = ( 6, 7)
* 30 * COOL-PEAK-PERIOD = ( 15, 16)
* 31 * X-REF = 0.0
* 32 * Y-REF = 0.0 ..
* 33 * RUN-PERIOD JAN 1 1994 THRU DEC 31 1994 ..
* 34 *
* 35 *
* 36 *
* 37 *
* 38 * PEOPLE =DAY-SCHEDULE (1,2) (0.8)
* 39 * (3,11) (0.)
* 40 * (12,13) (0.2)
* 41 * (14,15) (0.3)
* 42 * (16,17) (0.5)
* 43 * (18,19) (0.7)
* 44 * (20,21) (0.8)
* 45 * (22,24) (0.9) ..
* 46 *
* 47 * FULL_ON =DAY-SCHEDULE (1,24) (1.) ..
* 48 *
* 49 * FULL_OFFD =DAY-SCHEDULE (1,24) (0.) ..
* 50 *
* 51 * LIGHT_ON_D =DAY-SCHEDULE (1,2) (0.8)
* 52 * (3) (0.5)
* 53 * (4,8) (0.)
* 54 * (9,12) (0.1,0.2,0.4,0.5)
* 55 * (13,17) (0.6)
* 56 * (18,21) (0.7)
* 57 * (22,24) (0.8) ..
* 58 *
* 59 * INT_LDS_D =DAY-SCHEDULE (1,2) (0.3)
* 60 * (3) (0.1)
* 61 * (4,10) (0.)
* 62 * (11,14) (0.4,0.6,0.4,0.5)
* 63 * (15,17) (0.6)
* 64 * (18) (0.7)
* 65 * (19,20) (0.8)
* 66 * (21,22) (0.9)
* 67 * (23,24) (0.8,0.7) ..
* 68 *
* 69 *
* 70 * PEOPLE_W =WEEK-SCHEDULE (ALL) PEOPLE ..
* 71 *
* 72 * LIGHTS_WK =WEEK-SCHEDULE (ALL) LIGHT_ON_D ..
* 73 *
* 74 * APPLI_WK =WEEK-SCHEDULE (ALL) INT_LDS_D ..
* 75 *
* 76 * CND_WK =WEEK-SCHEDULE (ALL) FULL_ON ..
* 77 *
* 78 * FULL_OFFW =WEEK-SCHEDULE (ALL) FULL_OFFD ..
* 79 *
* 80 * FULL_ON_W =WEEK-SCHEDULE (ALL) FULL_ON ..
* 81 *
* 82 *
* 83 * $ PEOPLE SCHEDULE
* 84 * OCCUPANCY =SCHEDULE THRU DEC 31 PEOPLE_W ..
* 85 *
* 86 * $ LOADS SCHED
* 87 * INTLOADS =SCHEDULE THRU DEC 31 APPLI_WK ..
* 88 *
* 89 * $ LIGHTING SCHEDULE
* 90 * LIGHTS_ON =SCHEDULE THRU DEC 31 LIGHTS_WK ..
* 91 *
* 92 * $ APPLIANCE SCHEDULE
* 93 * APPLI_ON =SCHEDULE THRU DEC 31 APPLI_WK ..
* 94 *
* 95 * $ COND VENTIL SCHED
* 96 * CND_SCHED =SCHEDULE THRU FEB 28 FULL_OFFW
* 97 * THRU NOV 30 CND_WK
* 98 * THRU DEC 31 FULL_OFFW ..
* 99 *
* 100 * FULL_ON_SD =SCHEDULE THRU DEC 31 FULL_ON_W ..
* 101 *
* 102 *

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```

* 103 *
* 104 *
* 105 *           $ CONSTRUCTION TYPES
* 106 *
* 107 *
* 108 *
* 109 *   $ ROOF CONSTRUCTION
* 110 *   ROOFCON =CONSTRUCTION   U-VALUE = 0.050 ..
* 111 *
* 112 *   $ EXTERIOR WALL CONSTRUCTION
* 113 *   EXWALL =CONSTRUCTION   U-VALUE = 0.200 ..
* 114 *
* 115 *   $ INTERIOR WALL CONSTRUCTION
* 116 *   INWALL =CONSTRUCTION   U-VALUE = 0.500 ..
* 117 *
* 118 *   $ DOOR CONSTRUCTION
* 119 *   DOORCON =CONSTRUCTION   U-VALUE = 1.000 ..
* 120 *
* 121 *   $ FLOOR SLAB
* 122 *   FLOOR =CONSTRUCTION   U-VALUE = 0.100 ..
* 123 *   IMAGWALL =CONSTRUCTION   U-VALUE = 20.000 ..
* 124 *
* 125 *   GTYPE_1 =GLASS-TYPE     SHADING-COEF = 0.800
* 126 *                               PANES = 1
* 127 *                               GLASS-CONDUCTANCE = 1.130 ..
* 128 *   GTYPE_2 =GLASS-TYPE     SHADING-COEF = 0.300
* 129 *                               PANES = 1
* 130 *                               GLASS-CONDUCTANCE = 0.790 ..
* 131 *   GTYPE_3 =GLASS-TYPE     SHADING-COEF = 0.400
* 132 *                               PANES = 1
* 133 *                               GLASS-CONDUCTANCE = 0.360 ..
* 134 *
* 135 *
* 136 *
* 137 *
* 138 *           $ SPACE DESCRIPTION
* 139 *
* 140 *   RETAILSALS =SPACE   AREA = 3910.0   VOLUME = 35190.0
* 141 *                               TEMPERATURE = (65.)   ZONE-TYPE = CONDITIONED
* 142 *                               PEOPLE-SCHEDULE = OCCUPANCY   NUMBER-OF-PEOPLE = 15.0
* 143 *                               PEOPLE-HEAT-GAIN = 550.0
* 144 *                               LIGHTING-TYPE = REC-FLUOR-RV   LIGHTING-KW = 4.4
* 145 *                               LIGHTING-SCHEDULE = LIGHTS_ON
* 146 *                               EQUIP-SCHEDULE = INTLOADS   EQUIPMENT-KW = 2.0
* 147 *                               INF-METHOD = AIR-CHANGE   AIR-CHANGES/HR = 0.15
* 148 *                               INF-SCHEDULE = FULL_ON_SD ..
* 149 *
* 150 *           E-W           HEIGHT = 9.0   WIDTH = 71.0   CONS = EXWALL
* 151 *                               AZIMUTH = 0 ..
* 152 *
* 153 *           DOOR           HEIGHT = 7.0   WIDTH = 3.0   CONS = DOORCON ..
* 154 *
* 155 *           ROOF           HEIGHT = 52.0   WIDTH = 71.0   CONS = ROOFCON
* 156 *                               TILT = 0 ..
* 157 *
* 158 *           U-W           HEIGHT = 52.0   WIDTH = 71.0   CONS = FLOOR ..
* 159 *
* 160 *           I-W           HEIGHT = 9.0   WIDTH = 48.0   CONS = INWALL
* 161 *                               NEXT-TO = KITCHEN ..
* 162 *
* 163 *
* 164 *   LOBBY =SPACE   AREA = 5440.0   VOLUME = 48960.0
* 165 *                               TEMPERATURE = (65.)   ZONE-TYPE = CONDITIONED
* 166 *                               PEOPLE-SCHEDULE = OCCUPANCY   NUMBER-OF-PEOPLE = 100.0
* 167 *                               PEOPLE-HEAT-GAIN = 1000.0   LIGHTING-TYPE = INCAND
* 168 *                               LIGHTING-KW = 10.8   LIGHTING-SCHEDULE = LIGHTS_ON
* 169 *                               EQUIP-SCHEDULE = INTLOADS   EQUIPMENT-KW = 2.0
* 170 *                               INF-METHOD = AIR-CHANGE   AIR-CHANGES/HR = 0.25
* 171 *                               INF-SCHEDULE = FULL_ON_SD ..
* 172 *
* 173 *           E-W           HEIGHT = 9.0   WIDTH = 147.0   CONS = EXWALL
* 174 *                               AZIMUTH = 180 ..
* 175 *
* 176 *           E-W           HEIGHT = 9.0   WIDTH = 32.0   CONS = EXWALL
* 177 *                               AZIMUTH = 270 ..
* 178 *
* 179 *           E-W           HEIGHT = 9.0   WIDTH = 38.0   CONS = EXWALL
* 180 *                               AZIMUTH = 90 ..
* 181 *
* 182 *           U-W           HEIGHT = 147.0   WIDTH = 38.0   CONS = FLOOR ..
* 183 *
* 184 *           ROOF           HEIGHT = 136.0   WIDTH = 40.0   CONS = ROOFCON
* 185 *                               TILT = 0 ..
* 186 *
* 187 *
* 188 *   FOODAREA =SPACE   AREA = 3072.0   VOLUME = 27648.0
* 189 *                               TEMPERATURE = (65.)   ZONE-TYPE = CONDITIONED
* 190 *                               PEOPLE-SCHEDULE = OCCUPANCY   NUMBER-OF-PEOPLE = 150.0
* 191 *                               PEOPLE-HEAT-GAIN = 1000.0   LIGHTING-TYPE = INCAND
* 192 *                               LIGHTING-KW = 8.6   LIGHTING-SCHEDULE = LIGHTS_ON
* 193 *                               EQUIP-SCHEDULE = INTLOADS   EQUIPMENT-KW = 47.5
* 194 *                               SOURCE-SCHEDULE = FULL_ON_SD   SOURCE-TYPE = HOT-WATER
* 195 *                               SOURCE-BTU/HR = 6849.0   SOURCE-SENSIBLE = 0.3
* 196 *                               SOURCE-LATENT = 0.4   INF-METHOD = AIR-CHANGE
* 197 *                               AIR-CHANGES/HR = 0.1   INF-SCHEDULE = FULL_ON_SD ..
* 198 *
* 199 *           ROOF           HEIGHT = 48.0   WIDTH = 64.0   CONS = ROOFCON
* 200 *                               TILT = 0 ..
* 201 *
* 202 *           U-W           HEIGHT = 48.0   WIDTH = 64.0   CONS = FLOOR ..
* 203 *
* 204 *           I-W           HEIGHT = 9.0   WIDTH = 48.0   CONS = INWALL
* 205 *                               NEXT-TO = KITCHEN ..
* 206 *
* 207 *
* 208 *   EMCLUB =SPACE   AREA = 2000.0   VOLUME = 18000.0
* 209 *                               TEMPERATURE = (65.)   ZONE-TYPE = CONDITIONED
* 210 *                               PEOPLE-SCHEDULE = OCCUPANCY   NUMBER-OF-PEOPLE = 300.0

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* 211 *      PEOPLE-HEAT-GAIN = 1360.0  PEOPLE-HG-LAT = 875.0
* 212 *      PEOPLE-HG-SENS = 405.0  LIGHTING-TYPE = INCAND
* 213 *      LIGHTING-KW = 6.7  LIGHTING-SCHEDULE = LIGHTS_ON
* 214 *      EQUIP-SCHEDULE = INTLOADS  EQUIPMENT-KW = 4.0
* 215 *      INF-METHOD = AIR-CHANGE  AIR-CHANGES/HR = 0.15
* 216 *      INF-SCHEDULE = FULL_ON_SD  ..
* 217 *
* 218 *      E-W      HEIGHT = 9.0  WIDTH = 70.0  CONS = EXWALL
* 219 *              AZIMUTH = 180  ..
* 220 *
* 221 *      ROOF      HEIGHT = 70.0  WIDTH = 40.0  CONS = ROOFCON
* 222 *              TILT = 0  ..
* 223 *
* 224 *      U-W      HEIGHT = 70.0  WIDTH = 40.0  CONS = FLOOR ..
* 225 *
* 226 *      I-W      HEIGHT = 9.0  WIDTH = 40.0  CONS = INWALL
* 227 *              NEXT-TO = KITCHEN  ..
* 228 *
* 229 *
* 230 *      KITCHEN  =SPACE  AREA = 2880.0  VOLUME = 25920.0
* 231 *              TEMPERATURE = (55.)  ZONE-TYPE = CONDITIONED
* 232 *              PEOPLE-SCHEDULE = OCCUPANCY  NUMBER-OF-PEOPLE = 20.0
* 233 *              PEOPLE-HEAT-GAIN = 1000.0  LIGHTING-TYPE = INCAND
* 234 *              LIGHTING-KW = 3.5  LIGHTING-SCHEDULE = LIGHTS_ON
* 235 *              EQUIP-SCHEDULE = FULL_ON_SD  EQUIPMENT-KW = 7.0
* 236 *              INF-METHOD = AIR-CHANGE  AIR-CHANGES/HR = 0.2
* 237 *              INF-SCHEDULE = FULL_ON_SD  ..
* 238 *
* 239 *      E-W      HEIGHT = 9.0  WIDTH = 20.0  CONS = EXWALL
* 240 *              AZIMUTH = 180  ..
* 241 *
* 242 *      E-W      HEIGHT = 9.0  WIDTH = 144.0  CONS = EXWALL
* 243 *              AZIMUTH = 90  ..
* 244 *
* 245 *      E-W      HEIGHT = 9.0  WIDTH = 20.0  CONS = EXWALL
* 246 *              AZIMUTH = 0  ..
* 247 *
* 248 *      ROOF      HEIGHT = 20.0  WIDTH = 144.0  CONS = ROOFCON
* 249 *              TILT = 0  ..
* 250 *
* 251 *      U-W      HEIGHT = 20.0  WIDTH = 144.0  CONS = FLOOR ..
* 252 *
* 253 *      I-W      HEIGHT = 9.0  WIDTH = 48.0  CONS = INWALL
* 254 *              AZIMUTH = 180  NEXT-TO = RETAILSALS  ..
* 255 *
* 256 *      I-W      HEIGHT = 9.0  WIDTH = 48.0  CONS = INWALL
* 257 *              AZIMUTH = 180  NEXT-TO = FOODAREA  ..
* 258 *
* 259 *      I-W      HEIGHT = 9.0  WIDTH = 40.0  CONS = INWALL
* 260 *              AZIMUTH = 180  NEXT-TO = EMCLUB  ..
* 261 *
* 262 *
* 263 *      EMCLUB_B  =SPACE  AREA = 900.0  VOLUME = 8100.0
* 264 *              TEMPERATURE = (65.)  ZONE-TYPE = CONDITIONED
* 265 *              PEOPLE-SCHEDULE = OCCUPANCY
* 266 *              LIGHTING-SCHEDULE = OCCUPANCY
* 267 *              EQUIP-SCHEDULE = OCCUPANCY  FLOOR-WEIGHT = 0.1
* 268 *              INF-METHOD = AIR-CHANGE  ..
* 269 *
* 270 *      I-W      HEIGHT = 9.0  WIDTH = 500.0  CONS = IMAGWALL
* 271 *              AZIMUTH = 90  NEXT-TO = EMCLUB  ..
* 272 *
* 273 *
* 274 *      END  ..
* 275 *      COMPUTE LOADS  ..
* 276 *
* 277 *      INPUT SYSTEMS  ..

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SDL PROCESSOR INPUT DATA

3/18/1995 17:32:11 SDL RUN 1

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* 278 *
* 279 *
* 280 *
* 281 * $-----$
* 282 * $ E Z - D O E   S Y S T E M S   I N P U T $
* 283 * $-----$
* 284 *
* 285 * $ GENERAL PROJECT DATA
* 286 *
* 287 * TITLE LINE-1 * EMC ENGINEERS INC. *
* 288 * LINE-2 * EZDOR - ELITE SOFTWARE DEVELOPMENT INC*
* 289 * LINE-3 * DENVER, CO 80227 *
* 290 * LINE-4 * BUILDING 10207 EXCHANGE/CLUB *
* 291 * LINE-5 * MODEL WITH NIGHT SETBACK * ..
* 292 * ABORT ERRORS ..
* 293 * DIAGNOSTIC WARNINGS ..
* 294 * SYSTEMS-REPORT SUMMARY=(SS-A,SS-B,SS-C,SS-D,SS-E,SS-F,SS-G,
* 295 * SS-H,SS-I,SS-J,SS-K,SS-L,SS-M,SS-N,
* 296 * SS-O) ..
* 297 *
* 298 * $ SCHEDULES
* 299 *
* 300 * FULL_ON_D =DAY-SCHEDULE (1,24) (1.) ..
* 301 * HEAT_D =DAY-SCHEDULE (1,24) (73.) ..
* 302 * COOL_D =DAY-SCHEDULE (1,24) (75.) ..
* 303 * FULL_OFF_D =DAY-SCHEDULE (1,24) (0.) ..
* 304 * AHU1_SCH =DAY-SCHEDULE (1,5) (0.)
* 305 * (6,20) (1.)
* 306 * (21,24) (0.) ..
* 307 * HT_AHU1_D =DAY-SCHEDULE (1,5) (55.)
* 308 * (6,20) (68.)
* 309 * (21,24) (55.) ..
* 310 * AHU_SCH_D =DAY-SCHEDULE (1,2) (1.)
* 311 * (3,10) (0.)
* 312 * (11,24) (1.) ..
* 313 * HT_60_D =DAY-SCHEDULE (1,24) (55.) ..
* 314 * AHU_2_ON_D =DAY-SCHEDULE (1,2) (1.)
* 315 * (3,5) (0.)
* 316 * (6,15) (1.)
* 317 * (16) (0.)
* 318 * (17,24) (1.) ..
* 319 * AHU_2_HT_D =DAY-SCHEDULE (1,2) (73.)
* 320 * (3,5) (55.)
* 321 * (6,24) (73.) ..
* 322 * DX_ON_D =DAY-SCHEDULE (1,3) (1.)
* 323 * (4,18) (0.)
* 324 * (19,24) (1.) ..
* 325 * HT_W_SB_D =DAY-SCHEDULE (1,2) (73.)
* 326 * (3,10) (50.)
* 327 * (11,24) (73.) ..
* 328 * CL_W_SB_D =DAY-SCHEDULE (1,2) (75.)
* 329 * (3,10) (85.)
* 330 * (11,24) (75.) ..
* 331 * FAN_W_SB_D =DAY-SCHEDULE (1,2) (1.)
* 332 * (3,10) (0.)
* 333 * (11,24) (1.) ..
* 334 *
* 335 * FULL_ON_W =WEEK-SCHEDULE (ALL) FULL_ON_D ..
* 336 *
* 337 * HEAT_W =WEEK-SCHEDULE (ALL) HEAT_D ..
* 338 *
* 339 * COOL_W =WEEK-SCHEDULE (ALL) COOL_D ..
* 340 *
* 341 * FULL_OFF_W =WEEK-SCHEDULE (ALL) FULL_OFF_D ..
* 342 *
* 343 * AHU_SCHD_W =WEEK-SCHEDULE (ALL) AHU_SCH_D ..
* 344 *
* 345 * AHU1_W =WEEK-SCHEDULE (ALL) AHU1_SCH ..
* 346 *
* 347 * HT_AHU1_W =WEEK-SCHEDULE (ALL) HT_AHU1_D ..
* 348 *
* 349 * HEAT_60_W =WEEK-SCHEDULE (ALL) HT_60_D ..
* 350 *
* 351 * AHU_2_ON_W =WEEK-SCHEDULE (ALL) AHU_2_ON_D ..
* 352 *
* 353 * AHU_2_HT_W =WEEK-SCHEDULE (ALL) AHU_2_HT_D ..
* 354 *
* 355 * DX_ON_W =WEEK-SCHEDULE (ALL) DX_ON_D ..
* 356 *
* 357 * HT_W_SB_W =WEEK-SCHEDULE (ALL) HT_W_SB_D ..
* 358 *
* 359 * CL_W_SB_W =WEEK-SCHEDULE (ALL) CL_W_SB_D ..
* 360 *
* 361 * FAN_W_SB_W =WEEK-SCHEDULE (ALL) FAN_W_SB_D ..
* 362 *
* 363 *
* 364 * FULL_ON =SCHEDULE THRU DEC 31 FULL_ON_W ..
* 365 *
* 366 * $ HEATING SCHEDULE
* 367 * HEAT_ON =SCHEDULE THRU DEC 31 HEAT_W ..
* 368 *
* 369 * $ COOLING SCHEDULE
* 370 * COOL_ON =SCHEDULE THRU DEC 31 COOL_W ..
* 371 *
* 372 * FULL_OFF =SCHEDULE THRU DEC 31 FULL_OFF_W ..
* 373 *
* 374 * HT_AHU1_SD =SCHEDULE THRU DEC 31 HT_AHU1_W ..
* 375 *
* 376 * $ MATCHES OCCUPANCY
* 377 * AHU_SCHDL =SCHEDULE THRU DEC 31 AHU_SCHD_W ..

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* 378 *
* 379 * AHU1_SCHED =SCHEDULE THRU DEC 31 AHU1_W ..
* 380 *
* 381 * HEAT_60 =SCHEDULE THRU DEC 31 HEAT_60_W ..
* 382 *
* 383 * AHU_2_ON =SCHEDULE THRU DEC 31 AHU_2_ON_W ..
* 384 *
* 385 * AHU_2_HT =SCHEDULE THRU DEC 31 AHU_2_HT_W ..
* 386 *
* 387 * $ 2X10TON DX UNIT SCHD
* 388 * DX_ON_SCHD =SCHEDULE THRU MAY 15 DX_ON_W
* 389 * THRU NOV 30 FULL_ON_W
* 390 * THRU DEC 31 DX_ON_W ..
* 391 *
* 392 * HT_W_SB =SCHEDULE THRU DEC 31 HT_W_SB_W ..
* 393 *
* 394 * CL_W_SB =SCHEDULE THRU DEC 31 CL_W_SB_W ..
* 395 *
* 396 * FAN_W_SB =SCHEDULE THRU DEC 31 FAN_W_SB_W ..
* 397 *
* 398 * $ HEATING AVAILABLE
* 399 * HEAT_AVAIL =SCHEDULE THRU MAY 15 FULL_ON_W
* 400 * THRU OCT 15 FULL_OFF_W
* 401 * THRU DEC 31 FULL_ON_W ..
* 402 *
* 403 * $ COOLING AVAILABLE
* 404 * COOL_AVAIL =SCHEDULE THRU MAY 15 FULL_OFF_W
* 405 * THRU OCT 15 FULL_ON_W
* 406 * THRU DEC 31 FULL_OFF_W ..
* 407 *
* 408 * $ FAN SCHEDULE W SETBACK
* 409 * DXUNIT_FAN =SCHEDULE THRU MAY 15 FULL_OFF_W
* 410 * THRU OCT 15 FAN_W_SB_W
* 411 * THRU DEC 31 FULL_OFF_W ..
* 412 *
* 413 *
* 414 *
* 415 * $ ZONE DESCRIPTION
* 416 *
* 417 * RETAILSALS =ZONE DESIGN-HEAT-T = 68.0 DESIGN-COOL-T = 75.0
* 418 * HEAT-TEMP-SCH = HT_W_SB COOL-TEMP-SCH = CL_W_SB
* 419 * ZONE-TYPE = CONDITIONED
* 420 * THERMOSTAT-TYPE = PROPORTIONAL THROTTLING-RANGE = 1.0
* 421 * BASEBOARD-CTRL = THERMOSTATIC ASSIGNED-CFM = 2500.
* 422 * OUTSIDE-AIR-CFM = 875. SIZING-OPTION = FROM-LOADS
* 423 * RATED-CFM = 2500.0 MIN-CFM-RATIO = 1.0
* 424 * HEATING-CAPACITY = -152200.0 ..
* 425 *
* 426 * LOBBY =ZONE DESIGN-HEAT-T = 68.0 DESIGN-COOL-T = 75.0
* 427 * HEAT-TEMP-SCH = HT_W_SB COOL-TEMP-SCH = CL_W_SB
* 428 * ZONE-TYPE = CONDITIONED
* 429 * THERMOSTAT-TYPE = PROPORTIONAL THROTTLING-RANGE = 1.0
* 430 * BASEBOARD-CTRL = THERMOSTATIC ASSIGNED-CFM = 4500.
* 431 * OUTSIDE-AIR-CFM = 1575. SIZING-OPTION = FROM-LOADS
* 432 * RATED-CFM = 4500.0 MIN-CFM-RATIO = 0.4
* 433 * HEATING-CAPACITY = -278000.0 ..
* 434 *
* 435 * FOODAREA =ZONE DESIGN-HEAT-T = 68.0 DESIGN-COOL-T = 75.0
* 436 * HEAT-TEMP-SCH = HT_W_SB COOL-TEMP-SCH = CL_W_SB
* 437 * ZONE-TYPE = CONDITIONED
* 438 * THERMOSTAT-TYPE = PROPORTIONAL THROTTLING-RANGE = 1.0
* 439 * BASEBOARD-CTRL = THERMOSTATIC ASSIGNED-CFM = 4900.
* 440 * OUTSIDE-AIR-CFM = 1715. SIZING-OPTION = FROM-LOADS
* 441 * RATED-CFM = 4900.0 MIN-CFM-RATIO = 1.0
* 442 * HEATING-CAPACITY = -201000.0 ..
* 443 *
* 444 * EMCLUB =ZONE DESIGN-HEAT-T = 68.0 DESIGN-COOL-T = 75.0
* 445 * HEAT-TEMP-SCH = HT_W_SB COOL-TEMP-SCH = CL_W_SB
* 446 * ZONE-TYPE = CONDITIONED
* 447 * THERMOSTAT-TYPE = PROPORTIONAL THROTTLING-RANGE = 1.0
* 448 * BASEBOARD-CTRL = THERMOSTATIC ASSIGNED-CFM = 4000.
* 449 * OUTSIDE-AIR-CFM = 1400. SIZING-OPTION = FROM-LOADS
* 450 * RATED-CFM = 4000.0 MIN-CFM-RATIO = 1.0
* 451 * HEATING-CAPACITY = -138000.0 ..
* 452 *
* 453 * KITCHEN =ZONE DESIGN-HEAT-T = 60.0 DESIGN-COOL-T = 90.0
* 454 * HEAT-TEMP-SCH = HEAT_60 COOL-TEMP-SCH = CL_W_SB
* 455 * ZONE-TYPE = CONDITIONED
* 456 * THERMOSTAT-TYPE = PROPORTIONAL THROTTLING-RANGE = 1.0
* 457 * BASEBOARD-CTRL = THERMOSTATIC
* 458 * BASEBOARD-RATING = -72433. ASSIGNED-CFM = 1200.
* 459 * OUTSIDE-AIR-CFM = 420. SIZING-OPTION = FROM-LOADS
* 460 * RATED-CFM = 1200.0 MIN-CFM-RATIO = 1.0 ..
* 461 *
* 462 * EMCLUB_B =ZONE DESIGN-HEAT-T = 68.0 DESIGN-COOL-T = 75.0
* 463 * ZONE-TYPE = CONDITIONED
* 464 * THERMOSTAT-TYPE = PROPORTIONAL THROTTLING-RANGE = 1.0
* 465 * BASEBOARD-CTRL = THERMOSTATIC ASSIGNED-CFM = 800.
* 466 * OUTSIDE-AIR-CFM = 800. SIZING-OPTION = FROM-LOADS
* 467 * RATED-CFM = 800.0 MIN-CFM-RATIO = 1.0
* 468 * MIN-CFM-SCH = FULL_ON EXHAUST-CFM = 800.0 ..
* 469 *
* 470 *
* 471 * $ SYSTEM DESCRIPTION
* 472 *
* 473 * AHU_1 =SYSTEM SYSTEM-TYPE = SZRH
* 474 * MAX-SUPPLY-T = 135.0 MIN-SUPPLY-T = 57.0
* 475 * HEATING-SCHEDULE = HEAT_AVAIL
* 476 * COOLING-SCHEDULE = COOL_AVAIL HEAT-SET-T = 135.0
* 477 * PREHEAT-T = 41.0 MIN-HUMIDITY = 30.0
* 478 * ECONO-LIMIT-T = 65.0 ECONO-LOW-LIMIT = 55.0
* 479 * OA-CONTROL = FIXED SUPPLY-CFM = 2500.
* 480 * RETURN-CFM = 1625. RATED-CFM = 2500.
* 481 * MIN-OUTSIDE-AIR = 0.35 FAN-SCHEDULE = FAN_W_SB
* 482 * SUPPLY-DELTA-T = 2.4 SUPPLY-KW = 0.0009
* 483 * NIGHT-CYCLE-CTRL = CYCLE-ON-ANY NIGHT-VENT-DT = 0.0
* 484 * MIN-CFM-RATIO = 1.0 REHEAT-DELTA-T = 50.
* 485 * COOLING-CAPACITY = 100000. FURNACE-AUX = 0.

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* 486 * RETURN-AIR-PATH = DUCT
* 487 * ZONE-NAMES = (RETAILSALS) ..
* 488 *
* 489 * AHU_3      =SYSTEM  SYSTEM-TYPE = SZRH
* 490 * MAX-SUPPLY-T = 135.0 MIN-SUPPLY-T = 57.0
* 491 * HEATING-SCHEDULE = HEAT AVAIL
* 492 * COOLING-SCHEDULE = COOL_AVAIL HEAT-SET-T = 135.0
* 493 * PREHEAT-T = 41.0 MIN-HUMIDITY = 30.0
* 494 * ECONO-LIMIT-T = 65.0 ECONO-LOW-LIMIT = 55.0
* 495 * OA-CONTROL = FIXED SUPPLY-CFM = 6100.
* 496 * RETURN-CFM = 4700. RATED-CFM = 6100.
* 497 * MIN-OUTSIDE-AIR = 0.35 FAN-SCHEDULE = FAN_W_SB
* 498 * SUPPLY-DELTA-T = 2.4 SUPPLY-KW = 0.00092
* 499 * NIGHT-CYCLE-CTRL = CYCLE-ON-ANY NIGHT-VENT-DT = 0.0
* 500 * MIN-CFM-RATIO = 1.0 REHEAT-DELTA-T = 50.
* 501 * COOLING-CAPACITY = 260500. FURNACE-AUX = 0.
* 502 * RETURN-AIR-PATH = DUCT
* 503 * ZONE-NAMES = (FOODAREA, KITCHEN) ..
* 504 *
* 505 * AHU_4      =SYSTEM  SYSTEM-TYPE = SZRH
* 506 * MAX-SUPPLY-T = 135.0 MIN-SUPPLY-T = 57.0
* 507 * HEATING-SCHEDULE = HEAT AVAIL
* 508 * COOLING-SCHEDULE = COOL_AVAIL HEAT-SET-T = 135.0
* 509 * PREHEAT-T = 41.0 MIN-HUMIDITY = 30.0
* 510 * ECONO-LIMIT-T = 65.0 ECONO-LOW-LIMIT = 55.0
* 511 * OA-CONTROL = FIXED SUPPLY-CFM = 4000.
* 512 * RETURN-CFM = 2600. RATED-CFM = 4000.
* 513 * MIN-OUTSIDE-AIR = 0.35 FAN-SCHEDULE = FAN_W_SB
* 514 * SUPPLY-DELTA-T = 2.4 SUPPLY-KW = 0.00078
* 515 * NIGHT-CYCLE-CTRL = CYCLE-ON-ANY NIGHT-VENT-DT = 0.0
* 516 * MIN-CFM-RATIO = 1.0 REHEAT-DELTA-T = 50.
* 517 * COOLING-CAPACITY = 240000. FURNACE-AUX = 0.
* 518 * RETURN-AIR-PATH = DUCT
* 519 * ZONE-NAMES = (EMCLUB) ..
* 520 *
* 521 * AHU_2      =SYSTEM  SYSTEM-TYPE = VAVS
* 522 * MAX-SUPPLY-T = 135.0 MIN-SUPPLY-T = 57.0
* 523 * HEATING-SCHEDULE = HEAT AVAIL
* 524 * COOLING-SCHEDULE = COOL_AVAIL PREHEAT-T = 41.0
* 525 * MIN-HUMIDITY = 30.0 ECONO-LIMIT-T = 65.0
* 526 * ECONO-LOW-LIMIT = 55.0 COOL-CONTROL = WARMEST
* 527 * OA-CONTROL = FIXED SUPPLY-CFM = 4500.
* 528 * RETURN-CFM = 2925. RATED-CFM = 4500.
* 529 * MIN-OUTSIDE-AIR = 0.35 FAN-SCHEDULE = FAN_W_SB
* 530 * SUPPLY-DELTA-T = 3.4 SUPPLY-KW = 0.00109
* 531 * NIGHT-CYCLE-CTRL = CYCLE-ON-ANY NIGHT-VENT-DT = 0.0
* 532 * MIN-CFM-RATIO = 0.4 REHEAT-DELTA-T = 50.
* 533 * COOLING-CAPACITY = 214300. FURNACE-AUX = 0.
* 534 * SIZING-OPTION = COINCIDENT
* 535 * ZONE-NAMES = (LOBBY) ..
* 536 *
* 537 * DX_UNITS   =SYSTEM  SYSTEM-TYPE = PSZ
* 538 * MAX-SUPPLY-T = 65.0 MIN-SUPPLY-T = 45.0
* 539 * HEATING-SCHEDULE = FULL OFF
* 540 * COOLING-SCHEDULE = COOL_AVAIL OA-CONTROL = FIXED
* 541 * SUPPLY-CFM = 800. RATED-CFM = 800.
* 542 * MIN-OUTSIDE-AIR = 1.0 MIN-AIR-SCH = FULL_ON
* 543 * FAN-SCHEDULE = FAN_W_SB SUPPLY-DELTA-T = 1.8
* 544 * SUPPLY-KW = 0.00059 MAX-FAN-RATIO = 1.0
* 545 * MIN-FAN-RATIO = 1.0 NIGHT-CYCLE-CTRL = STAY-OFF
* 546 * NIGHT-VENT-DT = 0.0 MIN-CFM-RATIO = 1.0
* 547 * COOLING-CAPACITY = 24000. COOL-SH-CAP = 18555.
* 548 * COOL-PT-MIN = 0. FURNACE-AUX = 0.
* 549 * CRANKCASE-MAX-T = 0. OUTSIDE-FAN-T = 45.
* 550 * ZONE-NAMES = (EMCLUB_B) ..
* 551 *
* 552 * END ..
* 553 * COMPUTE SYSTEMS ..
* 554 *
* 555 * INPUT PLANT ..

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PDL PROCESSOR INPUT DATA

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* 556 *
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$-----$
$EZ - DOE PLANTS INPUT $
$-----$

$ GENERAL PROJECT DATA

TITLE LINE-1 * EMC ENGINEERS INC. *
LINE-2 *EZDOE - ELITE SOFTWARE DEVELOPMENT INC*
LINE-3 * DENVER, CO 80227 *
LINE-4 *BUILDING 10207 EXCHANGE/CLUB *
LINE-5 *MODEL WITH NIGHT SETBACK * ..

ABORT ERRORS ..
DIAGNOSTIC WARNINGS ..
PLANT-REPORT SUMMARY=(PS-A,PS-B,PS-C,PS-D,PS-G,PS-H,PS-I,
.. BEPS)

$ SCHEDULES

DAY_ON =DAY-SCHEDULE (1,7) (0.)
(8,18) (1.)
(19,24) (0.) ..

FULL_ON =WEEK-SCHEDULE (ALL) DAY_ON ..

$ heating plant schedule
heating =SCHEDULE THRU DEC 31 FULL_ON ..

$ EQUIPMENT DESCRIPTION

BOILER =PLANT-EQUIPMENT TYPE = HW-BOILER
SIZE = 0.8 ..

CHILLER =PLANT-EQUIPMENT TYPE = OPEN-REC-CHLR
SIZE = 0.9 ..

PLANT-PARAMETERS BOILER-FUEL = NATURAL-GAS BOILER-CONTROL = STANDBY
MAKEUP-WTR-T = 50. STM-BOILER-HIR = 0.76
HW-BOILER-HIR = 1.27 OPEN-REC-COND-TYPE = AIR
HERM-REC-COND-TYPE = AIR MIN-COND-AIR-T = 35.
CCIRC-HEAD = 80.0 HCIRC-HEAD = 40.0 ..

PART-LOAD-RATIO TYPE = HW-BOILER
MIN-RATIO = 0.2500 MAX-RATIO = 1.0000
OPERATING-RATIO = 1.0000 ELEC-INPUT-RATIO = 0.0220 ..

ENERGY-RESOURCE RESOURCE = ELECTRICITY ..
ENERGY-RESOURCE RESOURCE = NATURAL-GAS ..

END ..
COMPUTE PLANT ..
STOP ..

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MO	UTILITY-	ELECTRICITY	NATURAL-GAS
	TOTAL (MBTU)	151.988	266.243
JAN	PEAK (KBTU)	353.861	1016.000
	DY/HR	27/22	6/13
	TOTAL (MBTU)	137.315	208.836
FEB	PEAK (KBTU)	353.520	914.031
	DY/HR	27/22	5/11
	TOTAL (MBTU)	152.240	202.122
MAR	PEAK (KBTU)	353.520	856.470
	DY/HR	28/22	9/11
	TOTAL (MBTU)	146.988	115.961
APR	PEAK (KBTU)	352.354	623.507
	DY/HR	2/22	3/11
	TOTAL (MBTU)	176.166	46.789
MAY	PEAK (KBTU)	496.094	440.620
	DY/HR	31/22	2/11
	TOTAL (MBTU)	207.404	8.187
JUN	PEAK (KBTU)	534.327	11.371
	DY/HR	28/19	30/ 1
	TOTAL (MBTU)	228.721	8.460
JUL	PEAK (KBTU)	559.790	11.371
	DY/HR	17/19	31/ 1
	TOTAL (MBTU)	219.480	8.460
AUG	PEAK (KBTU)	548.752	11.371
	DY/HR	9/22	31/ 1
	TOTAL (MBTU)	201.291	8.187
SEP	PEAK (KBTU)	561.167	11.371
	DY/HR	1/22	30/ 1
	TOTAL (MBTU)	170.343	51.488
OCT	PEAK (KBTU)	465.625	462.691
	DY/HR	7/22	26/11
	TOTAL (MBTU)	146.960	135.083
NOV	PEAK (KBTU)	353.520	624.621
	DY/HR	28/22	27/11
	TOTAL (MBTU)	151.977	215.240
DEC	PEAK (KBTU)	353.520	908.723
	DY/HR	30/22	28/11
	ONE YEAR	2090.875	1275.057
	USE/PEAK	561.167	1016.000

INPUT LOADS ..

\$-----\$  
\$ E Z - D O E L O A D S I N P U T \$  
\$-----\$

\$ GENERAL PROJECT DATA

TITLE LINE-1 \* EMC ENGINEERS INC. \*  
LINE-2 \*EZDOE - ELITE SOFTWARE DEVELOPMENT INC\*  
LINE-3 \* DENVER, CO 80227 \*  
  
LINE-4 \*BUILDING 10207 EXCHANGE/CLUB \*  
LINE-5 \*MODEL WITH SET BACK & ECONOMIZER \* ..  
  
ABORT ERRORS ..  
DIAGNOSTIC WARNINGS ..  
LOADS-REPORT SUMMARY=(LS-A,LS-B,LS-C,LS-D,LS-E,LS-F,LS-G,  
LS-H,LS-I,LS-J,LS-K,LS-L) ..  
  
BUILDING-LOCATION LATITUDE = 44.0  
ALTITUDE = 655.  
AZIMUTH = -40.  
TIME-ZONE = 5  
GROSS-AREA = 18199  
HOLIDAY = NO  
SHIELDING-COEF = 0.19  
HEAT-PEAK-PERIOD = ( 6, 7)  
COOL-PEAK-PERIOD = ( 15, 16)  
X-REF = 0.0  
Y-REF = 0.0 ..  
  
RUN-PERIOD JAN 1 1994 THRU DEC 31 1994 ..

\$ SCHEDULES

PEOPLE =DAY-SCHEDULE (1,2) (0.8)  
(3,11) (0.)  
(12,13) (0.2)  
(14,15) (0.3)  
(16,17) (0.5)  
(18,19) (0.7)  
(20,21) (0.8)  
(22,24) (0.9) ..  
  
FULL\_ON =DAY-SCHEDULE (1,24) (1.) ..  
FULL\_OFFD =DAY-SCHEDULE (1,24) (0.) ..  
  
LIGHT\_ON\_D =DAY-SCHEDULE (1,2) (0.8)  
(3) (0.5)  
(4,8) (0.)  
(9,12) (0.1,0.2,0.4,0.5)  
(13,17) (0.6)  
(18,21) (0.7)  
(22,24) (0.8) ..  
  
INT\_LDS\_D =DAY-SCHEDULE (1,2) (0.3)  
(3) (0.1)  
(4,10) (0.)  
(11,14) (0.4,0.6,0.4,0.5)  
(15,17) (0.6)  
(18) (0.7)  
(19,20) (0.8)  
(21,22) (0.9)  
(23,24) (0.8,0.7) ..  
  
PEOPLE\_W =WEEK-SCHEDULE (ALL) PEOPLE ..  
LIGHTS\_WK =WEEK-SCHEDULE (ALL) LIGHT\_ON\_D ..  
APPLI\_WK =WEEK-SCHEDULE (ALL) INT\_LDS\_D ..  
CND\_WK =WEEK-SCHEDULE (ALL) FULL\_ON ..  
FULL\_OFFW =WEEK-SCHEDULE (ALL) FULL\_OFFD ..  
FULL\_ON\_W =WEEK-SCHEDULE (ALL) FULL\_ON ..

\$ PEOPLE SCHEDULE  
OCCUPANCY =SCHEDULE THRU DEC 31 PEOPLE\_W ..

\$ LOADS SCHED  
INTLOADS =SCHEDULE THRU DEC 31 APPLI\_WK ..

\$ LIGHTING SCHEDULE  
LIGHTS\_ON =SCHEDULE THRU DEC 31 LIGHTS\_WK ..

\$ APPLIANCE SCHEDULE  
APPLI\_ON =SCHEDULE THRU DEC 31 APPLI\_WK ..

\$ COND VENTIL SCHED  
CND\_SCHED =SCHEDULE THRU FEB 28 FULL\_OFFW  
THRU NOV 30 CND\_WK  
THRU DEC 31 FULL\_OFFW ..

FULL\_ON\_SD =SCHEDULE THRU DEC 31 FULL\_ON\_W ..

\$ CONSTRUCTION TYPES

```

$ ROOF CONSTRUCTION
ROOFCON =CONSTRUCTION U-VALUE = 0.050 ..

$ EXTERIOR WALL CONSTRUCTION
EXWALL =CONSTRUCTION U-VALUE = 0.200 ..

$ INTERIOR WALL CONSTRUCTION
INWALL =CONSTRUCTION U-VALUE = 0.500 ..

$ DOOR CONSTRUCTION
DOORCON =CONSTRUCTION U-VALUE = 1.000 ..

$ FLOOR SLAB
FLOOR =CONSTRUCTION U-VALUE = 0.100 ..
IMAGWALL =CONSTRUCTION U-VALUE = 20.000 ..

GTYPE_1 =GLASS-TYPE SHADING-COEF = 0.800
PANES = 1
GLASS-CONDUCTANCE = 1.130 ..
GTYPE_2 =GLASS-TYPE SHADING-COEF = 0.300
PANES = 1
GLASS-CONDUCTANCE = 0.790 ..
GTYPE_3 =GLASS-TYPE SHADING-COEF = 0.400
PANES = 1
GLASS-CONDUCTANCE = 0.360 ..

$ SPACE DESCRIPTION

RETAILSALS =SPACE AREA = 3910.0 VOLUME = 35190.0
TEMPERATURE = (65.) ZONE-TYPE = CONDITIONED
PEOPLE-SCHEDULE = OCCUPANCY NUMBER-OF-PEOPLE = 15.0
PEOPLE-HEAT-GAIN = 550.0
LIGHTING-TYPE = REC-FLUOR-RV LIGHTING-KW = 4.4
LIGHTING-SCHEDULE = LIGHTS_ON
EQUIP-SCHEDULE = INTLOADS EQUIPMENT-KW = 2.0
INF-METHOD = AIR-CHANGE AIR-CHANGES/HR = 0.15
INF-SCHEDULE = FULL_ON_SD ..

E-W HEIGHT = 9.0 WIDTH = 71.0 CONS = EXWALL
AZIMUTH = 0 ..

DOOR HEIGHT = 7.0 WIDTH = 3.0 CONS = DOORCON ..

ROOF HEIGHT = 52.0 WIDTH = 71.0 CONS = ROOFCON
TILT = 0 ..

U-W HEIGHT = 52.0 WIDTH = 71.0 CONS = FLOOR ..

I-W HEIGHT = 9.0 WIDTH = 48.0 CONS = INWALL
NEXT-TO = KITCHEN ..

LOBBY =SPACE AREA = 5440.0 VOLUME = 48960.0
TEMPERATURE = (65.) ZONE-TYPE = CONDITIONED
PEOPLE-SCHEDULE = OCCUPANCY NUMBER-OF-PEOPLE = 100.0
PEOPLE-HEAT-GAIN = 1000.0 LIGHTING-TYPE = INCAND
LIGHTING-KW = 10.8 LIGHTING-SCHEDULE = LIGHTS_ON
EQUIP-SCHEDULE = INTLOADS EQUIPMENT-KW = 2.0
INF-METHOD = AIR-CHANGE AIR-CHANGES/HR = 0.25
INF-SCHEDULE = FULL_ON_SD ..

E-W HEIGHT = 9.0 WIDTH = 147.0 CONS = EXWALL
AZIMUTH = 180 ..

E-W HEIGHT = 9.0 WIDTH = 32.0 CONS = EXWALL
AZIMUTH = 270 ..

E-W HEIGHT = 9.0 WIDTH = 38.0 CONS = EXWALL
AZIMUTH = 90 ..

U-W HEIGHT = 147.0 WIDTH = 38.0 CONS = FLOOR ..

ROOF HEIGHT = 136.0 WIDTH = 40.0 CONS = ROOFCON
TILT = 0 ..

FOODAREA =SPACE AREA = 3072.0 VOLUME = 27648.0
TEMPERATURE = (65.) ZONE-TYPE = CONDITIONED
PEOPLE-SCHEDULE = OCCUPANCY NUMBER-OF-PEOPLE = 150.0
PEOPLE-HEAT-GAIN = 1000.0 LIGHTING-TYPE = INCAND
LIGHTING-KW = 8.6 LIGHTING-SCHEDULE = LIGHTS_ON
EQUIP-SCHEDULE = INTLOADS EQUIPMENT-KW = 47.5
SOURCE-SCHEDULE = FULL_ON_SD SOURCE-TYPE = HOT-WATER
SOURCE-BTU/HR = 6849.0 SOURCE-SENSIBLE = 0.3
SOURCE-LATENT = 0.4 INF-METHOD = AIR-CHANGE
AIR-CHANGES/HR = 0.1 INF-SCHEDULE = FULL_ON_SD ..

ROOF HEIGHT = 48.0 WIDTH = 64.0 CONS = ROOFCON
TILT = 0 ..

U-W HEIGHT = 48.0 WIDTH = 64.0 CONS = FLOOR ..

I-W HEIGHT = 9.0 WIDTH = 48.0 CONS = INWALL
NEXT-TO = KITCHEN ..

EMCLUB =SPACE AREA = 2000.0 VOLUME = 18000.0
TEMPERATURE = (65.) ZONE-TYPE = CONDITIONED
PEOPLE-SCHEDULE = OCCUPANCY NUMBER-OF-PEOPLE = 300.0
PEOPLE-HEAT-GAIN = 1360.0 PEOPLE-HG-LAT = 875.0
PEOPLE-HG-SENS = 405.0 LIGHTING-TYPE = INCAND
LIGHTING-KW = 6.7 LIGHTING-SCHEDULE = LIGHTS_ON
EQUIP-SCHEDULE = INTLOADS EQUIPMENT-KW = 4.0
INF-METHOD = AIR-CHANGE AIR-CHANGES/HR = 0.15
INF-SCHEDULE = FULL_ON_SD ..

```

ENERGY TYPE IN SITE MBTU-	ELECTRICITY	NATURAL-GAS
CATEGORY OF USE		
SPACE HEAT	48.83	1,177.29
SPACE COOL	311.16	0.00
HVAC AUX	338.19	0.00
DOM HOT WTR	4.93	97.76
AUX SOLAR	0.00	0.00
LIGHTS	487.09	0.00
VERT TRANS	0.00	0.00
MISC EQUIP	900.63	0.00
	-----	-----
TOTAL	2,090.82	1,275.04

TOTAL SITE ENERGY 3365.93 MBTU 185.0 KBTU/SQFT-YR GROSS-AREA 184.9 KBTU/SQFT-YR NET-AREA  
 TOTAL SOURCE ENERGY 7553.96 MBTU 415.1 KBTU/SQFT-YR GROSS-AREA 415.0 KBTU/SQFT-YR NET-AREA

PERCENT OF HOURS ANY SYSTEM ZONE OUTSIDE OF THROTTLING RANGE = 48.8  
 PERCENT OF HOURS ANY PLANT LOAD NOT SATISFIED = 0.1

NOTE ELECTRICITY AND/OR FUEL USED TO GENERATE ELECTRICITY IS APPORTIONED BASED  
 ON THE YEARLY DEMAND. ALL OTHER ENERGY TYPES ARE APPORTIONED HOURLY.



**COMPUTER SIMULATIONS**  
BUILDING 10207

RUN 2 - ECONOMIZER

```

E-W    HEIGHT = 9.0  WIDTH = 70.0  CONS = EXWALL
      AZIMUTH = 180  ..

ROOF    HEIGHT = 70.0  WIDTH = 40.0  CONS = ROOFCON
      TILT = 0  ..

U-W    HEIGHT = 70.0  WIDTH = 40.0  CONS = FLOOR ..

I-W    HEIGHT = 9.0  WIDTH = 40.0  CONS = INWALL
      NEXT-TO = KITCHEN  ..

KITCHEN  =SPACE  AREA = 2880.0  VOLUME = 25920.0
      TEMPERATURE = (55.)  ZONE-TYPE = CONDITIONED
      PEOPLE-SCHEDULE = OCCUPANCY  NUMBER-OF-PEOPLE = 20.0
      PEOPLE-HEAT-GAIN = 1000.0  LIGHTING-TYPE = INCAND
      LIGHTING-KW = 3.5  LIGHTING-SCHEDULE = LIGHTS_ON
      EQUIP-SCHEDULE = FULL_ON_SD  EQUIPMENT-KW = 7.0
      INF-METHOD = AIR-CHANGE  AIR-CHANGES/HR = 0.2
      INF-SCHEDULE = FULL_ON_SD  ..

E-W    HEIGHT = 9.0  WIDTH = 20.0  CONS = EXWALL
      AZIMUTH = 180  ..

E-W    HEIGHT = 9.0  WIDTH = 144.0  CONS = EXWALL
      AZIMUTH = 90  ..

E-W    HEIGHT = 9.0  WIDTH = 20.0  CONS = EXWALL
      AZIMUTH = 0  ..

ROOF    HEIGHT = 20.0  WIDTH = 144.0  CONS = ROOFCON
      TILT = 0  ..

U-W    HEIGHT = 20.0  WIDTH = 144.0  CONS = FLOOR ..

I-W    HEIGHT = 9.0  WIDTH = 48.0  CONS = INWALL
      AZIMUTH = 180  NEXT-TO = RETAILSALS  ..

I-W    HEIGHT = 9.0  WIDTH = 48.0  CONS = INWALL
      AZIMUTH = 180  NEXT-TO = FOODAREA  ..

I-W    HEIGHT = 9.0  WIDTH = 40.0  CONS = INWALL
      AZIMUTH = 180  NEXT-TO = EMCLUB  ..

EMCLUB_B  =SPACE  AREA = 900.0  VOLUME = 8100.0
      TEMPERATURE = (65.)  ZONE-TYPE = CONDITIONED
      PEOPLE-SCHEDULE = OCCUPANCY
      LIGHTING-SCHEDULE = OCCUPANCY
      EQUIP-SCHEDULE = OCCUPANCY  FLOOR-WEIGHT = 0.1
      INF-METHOD = AIR-CHANGE  ..

I-W    HEIGHT = 9.0  WIDTH = 500.0  CONS = IMAGWALL
      AZIMUTH = 90  NEXT-TO = EMCLUB  ..

END
COMPUTE LOADS  ..

INPUT SYSTEMS  ..

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$-----$
$ E Z - D O E   S Y S T E M S   I N P U T $
$-----$

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#### \$ GENERAL PROJECT DATA

```

TITLE  LINE-1 *   EMC   ENGINEERS   INC.   *
      LINE-2 *EZDOE - ELITE SOFTWARE DEVELOPMENT INC*
      LINE-3 *   DENVER,   CO   80227   *

      LINE-4 *BUILDING 10207  EXCHANGE/CLUB   *
      LINE-5 *MODEL WITH SET BACK & ECONOMIZER   * ..

ABORT   ERRORS  ..
DIAGNOSTIC  WARNINGS ..
SYSTEMS-REPORT  SUMMARY=(SS-A,SS-B,SS-C,SS-D,SS-E,SS-F,SS-G,
      SS-H,SS-I,SS-J,SS-K,SS-L,SS-M,SS-N,
      SS-O)  ..

```

#### \$ SCHEDULES

```

FULL_ON_D  =DAY-SCHEDULE  (1,24) (1.)  ..
HEAT_D     =DAY-SCHEDULE  (1,24) (73.) ..
COOL_D     =DAY-SCHEDULE  (1,24) (75.) ..
FULL_OFF_D =DAY-SCHEDULE  (1,24) (0.)  ..
AHU1_SCH   =DAY-SCHEDULE  (1,5) (0.)
      (6,20) (1.)
      (21,24) (0.) ..
HT_AHU1_D  =DAY-SCHEDULE  (1,5) (55.)
      (6,20) (73.)
      (21,24) (55.) ..
AHU_SCH_D  =DAY-SCHEDULE  (1,2) (1.)
      (3,10) (0.)
      (11,24) (1.) ..
HT_60_D    =DAY-SCHEDULE  (1,24) (55.) ..
AHU_2_ON_D =DAY-SCHEDULE  (1,2) (1.)
      (3,5) (0.)
      (6,15) (1.)
      (16) (0.)
      (17,24) (1.) ..
AHU_2_HT_D =DAY-SCHEDULE  (1,2) (73.)
      (3,5) (55.)
      (6,24) (73.) ..
DX_ON_D    =DAY-SCHEDULE  (1,3) (1.)
      (4,18) (0.)
      (19,24) (1.) ..
HT_W_SB_D  =DAY-SCHEDULE  (1,2) (73.)

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```

(3,10) (55.)
(11,24) (73.) ..
CL_W_SB_D =DAY-SCHEDULE (1,2) (75.)
(3,10) (85.)
(11,24) (75.) ..
FAN_W_SB_D =DAY-SCHEDULE (1,2) (1.)
(3,10) (0.)
(11,24) (1.) ..

FULL_ON_W =WEEK-SCHEDULE (ALL) FULL_ON_D ..
HEAT_W =WEEK-SCHEDULE (ALL) HEAT_D ..
COOL_W =WEEK-SCHEDULE (ALL) COOL_D ..
FULL_OFF_W =WEEK-SCHEDULE (ALL) FULL_OFF_D ..
AHU_SCHD_W =WEEK-SCHEDULE (ALL) AHU_SCH_D ..
AHU1_W =WEEK-SCHEDULE (ALL) AHU1_SCH ..
HT_AHU1_W =WEEK-SCHEDULE (ALL) HT_AHU1_D ..
HEAT_60_W =WEEK-SCHEDULE (ALL) HT_60_D ..
AHU_2_ON_W =WEEK-SCHEDULE (ALL) AHU_2_ON_D ..
AHU_2_HT_W =WEEK-SCHEDULE (ALL) AHU_2_HT_D ..
DX_ON_W =WEEK-SCHEDULE (ALL) DX_ON_D ..
HT_W_SB_W =WEEK-SCHEDULE (ALL) HT_W_SB_D ..
CL_W_SB_W =WEEK-SCHEDULE (ALL) CL_W_SB_D ..
FAN_W_SB_W =WEEK-SCHEDULE (ALL) FAN_W_SB_D ..

```

```

FULL_ON =SCHEDULE THRU DEC 31 FULL_ON_W ..
$ HEATING SCHEDULE
HEAT_ON =SCHEDULE THRU DEC 31 HEAT_W ..
$ COOLING SCHEDULE
COOL_ON =SCHEDULE THRU DEC 31 COOL_W ..
FULL_OFF =SCHEDULE THRU DEC 31 FULL_OFF_W ..
HT_AHU1_SD =SCHEDULE THRU DEC 31 HT_AHU1_W ..
$ MATCHES OCCUPANCY
AHU_SCHDL =SCHEDULE THRU DEC 31 AHU_SCHD_W ..
AHU1_SCHD =SCHEDULE THRU DEC 31 AHU1_W ..
HEAT_60 =SCHEDULE THRU DEC 31 HEAT_60_W ..
AHU_2_ON =SCHEDULE THRU DEC 31 AHU_2_ON_W ..
AHU_2_HT =SCHEDULE THRU DEC 31 AHU_2_HT_W ..
$ 2X10TON DX UNIT SCHD
DX_ON_SCHD =SCHEDULE THRU MAY 15 DX_ON_W
THRU NOV 30 FULL_ON_W
THRU DEC 31 DX_ON_W ..
HT_W_SB =SCHEDULE THRU DEC 31 HT_W_SB_W ..
CL_W_SB =SCHEDULE THRU DEC 31 CL_W_SB_W ..
FAN_W_SB =SCHEDULE THRU DEC 31 FAN_W_SB_W ..
$ HEATING AVAILABLE
HEAT_AVAIL =SCHEDULE THRU MAY 15 FULL_ON_W
THRU OCT 15 FULL_OFF_W
THRU DEC 31 FULL_ON_W ..
$ COOLING AVAILABLE
COOL_AVAIL =SCHEDULE THRU MAY 15 FULL_OFF_W
THRU OCT 15 FULL_ON_W
THRU DEC 31 FULL_OFF_W ..
$ FAN SCHEDULE W SETBACK
DXUNIT_FAN =SCHEDULE THRU MAY 15 FULL_OFF_W
THRU OCT 15 FAN_W_SB_W
THRU DEC 31 FULL_OFF_W ..

```

#### \$ ZONE DESCRIPTION

```

RETAILSALS =ZONE DESIGN-HEAT-T = 68.0 DESIGN-COOL-T = 75.0
HEAT-TEMP-SCH = HT_W_SB COOL-TEMP-SCH = CL_W_SB
ZONE-TYPE = CONDITIONED
THERMOSTAT-TYPE = PROPORTIONAL THROTTLING-RANGE = 1.0
BASEBOARD-CTRL = THERMOSTATIC ASSIGNED-CFM = 2500.
OUTSIDE-AIR-CFM = 875. SIZING-OPTION = FROM-LOADS
RATED-CFM = 2500.0 MIN-CFM-RATIO = 1.0
HEATING-CAPACITY = -152200.0 ..

LOBBY =ZONE DESIGN-HEAT-T = 68.0 DESIGN-COOL-T = 75.0
HEAT-TEMP-SCH = HT_W_SB COOL-TEMP-SCH = CL_W_SB
ZONE-TYPE = CONDITIONED
THERMOSTAT-TYPE = PROPORTIONAL THROTTLING-RANGE = 1.0
BASEBOARD-CTRL = THERMOSTATIC ASSIGNED-CFM = 4500.
OUTSIDE-AIR-CFM = 1575. SIZING-OPTION = FROM-LOADS
RATED-CFM = 4500.0 MIN-CFM-RATIO = 0.4
HEATING-CAPACITY = -278000.0 ..

```

FOODAREA =ZONE DESIGN-HEAT-T = 68.0 DESIGN-COOL-T = 75.0  
 HEAT-TEMP-SCH = HT\_W\_SB COOL-TEMP-SCH = CL\_W\_SB  
 ZONE-TYPE = CONDITIONED  
 THERMOSTAT-TYPE = PROPORTIONAL THROTTLING-RANGE = 1.0  
 BASEBOARD-CTRL = THERMOSTATIC ASSIGNED-CFM = 4900.  
 OUTSIDE-AIR-CFM = 1715. SIZING-OPTION = FROM-LOADS  
 RATED-CFM = 4900.0 MIN-CFM-RATIO = 1.0  
 HEATING-CAPACITY = -201000.0 ..

EMCLUB =ZONE DESIGN-HEAT-T = 68.0 DESIGN-COOL-T = 75.0  
 HEAT-TEMP-SCH = HT\_W\_SB COOL-TEMP-SCH = CL\_W\_SB  
 ZONE-TYPE = CONDITIONED  
 THERMOSTAT-TYPE = PROPORTIONAL THROTTLING-RANGE = 1.0  
 BASEBOARD-CTRL = THERMOSTATIC ASSIGNED-CFM = 4000.  
 OUTSIDE-AIR-CFM = 1400. SIZING-OPTION = FROM-LOADS  
 RATED-CFM = 4000.0 MIN-CFM-RATIO = 1.0  
 HEATING-CAPACITY = -138000.0 ..

KITCHEN =ZONE DESIGN-HEAT-T = 60.0 DESIGN-COOL-T = 90.0  
 HEAT-TEMP-SCH = HEAT\_60 COOL-TEMP-SCH = CL\_W\_SB  
 ZONE-TYPE = CONDITIONED  
 THERMOSTAT-TYPE = PROPORTIONAL THROTTLING-RANGE = 1.0  
 BASEBOARD-CTRL = THERMOSTATIC  
 BASEBOARD-RATING = -72433. ASSIGNED-CFM = 1200.  
 OUTSIDE-AIR-CFM = 420. SIZING-OPTION = FROM-LOADS  
 RATED-CFM = 1200.0 MIN-CFM-RATIO = 1.0 ..

EMCLUB\_B =ZONE DESIGN-HEAT-T = 68.0 DESIGN-COOL-T = 75.0  
 ZONE-TYPE = CONDITIONED  
 THERMOSTAT-TYPE = PROPORTIONAL THROTTLING-RANGE = 1.0  
 BASEBOARD-CTRL = THERMOSTATIC ASSIGNED-CFM = 800.  
 OUTSIDE-AIR-CFM = 800. SIZING-OPTION = FROM-LOADS  
 RATED-CFM = 800.0 MIN-CFM-RATIO = 1.0  
 MIN-CFM-SCH = FULL\_ON EXHAUST-CFM = 800.0 ..

# \$ SYSTEM DESCRIPTION

AHU\_1 =SYSTEM SYSTEM-TYPE = SZRH  
 MAX-SUPPLY-T = 135.0 MIN-SUPPLY-T = 57.0  
 HEATING-SCHEDULE = HEAT\_AVAIL  
 COOLING-SCHEDULE = COOL\_AVAIL HEAT-SET-T = 135.0  
 PREHEAT-T = 41.0 MIN-HUMIDITY = 30.0  
 ECONO-LIMIT-T = 65.0 ECONO-LOW-LIMIT = 55.0  
 SUPPLY-CFM = 2500. RETURN-CFM = 1625.  
 RATED-CFM = 2500. MIN-OUTSIDE-AIR = 0.35  
 FAN-SCHEDULE = FAN\_W\_SB SUPPLY-DELTA-T = 2.4  
 SUPPLY-KW = 0.0009 NIGHT-CYCLE-CTRL = CYCLE-ON-ANY  
 NIGHT-VENT-DT = 0.0 MIN-CFM-RATIO = 1.0  
 REHEAT-DELTA-T = 50. COOLING-CAPACITY = 100000.  
 FURNACE-AUX = 0. RETURN-AIR-PATH = DUCT  
 ZONE-NAMES = (RETAILSALS) ..

AHU\_3 =SYSTEM SYSTEM-TYPE = SZRH  
 MAX-SUPPLY-T = 135.0 MIN-SUPPLY-T = 57.0  
 HEATING-SCHEDULE = HEAT\_AVAIL  
 COOLING-SCHEDULE = COOL\_AVAIL HEAT-SET-T = 135.0  
 PREHEAT-T = 41.0 MIN-HUMIDITY = 30.0  
 ECONO-LIMIT-T = 65.0 ECONO-LOW-LIMIT = 55.0  
 SUPPLY-CFM = 6100. RETURN-CFM = 4700.  
 RATED-CFM = 6100. MIN-OUTSIDE-AIR = 0.35  
 FAN-SCHEDULE = FAN\_W\_SB SUPPLY-DELTA-T = 2.4  
 SUPPLY-KW = 0.00092 NIGHT-CYCLE-CTRL = CYCLE-ON-ANY  
 NIGHT-VENT-DT = 0.0 MIN-CFM-RATIO = 1.0  
 REHEAT-DELTA-T = 50. COOLING-CAPACITY = 260500.  
 FURNACE-AUX = 0. RETURN-AIR-PATH = DUCT  
 ZONE-NAMES = (FOODAREA, KITCHEN) ..

AHU\_4 =SYSTEM SYSTEM-TYPE = SZRH  
 MAX-SUPPLY-T = 135.0 MIN-SUPPLY-T = 57.0  
 HEATING-SCHEDULE = HEAT\_AVAIL  
 COOLING-SCHEDULE = COOL\_AVAIL HEAT-SET-T = 135.0  
 PREHEAT-T = 41.0 MIN-HUMIDITY = 30.0  
 ECONO-LIMIT-T = 65.0 ECONO-LOW-LIMIT = 55.0  
 SUPPLY-CFM = 4000. RETURN-CFM = 2600.  
 RATED-CFM = 4000. MIN-OUTSIDE-AIR = 0.35  
 FAN-SCHEDULE = FAN\_W\_SB SUPPLY-DELTA-T = 2.4  
 SUPPLY-KW = 0.00078 NIGHT-CYCLE-CTRL = CYCLE-ON-ANY  
 NIGHT-VENT-DT = 0.0 MIN-CFM-RATIO = 1.0  
 REHEAT-DELTA-T = 50. COOLING-CAPACITY = 240000.  
 FURNACE-AUX = 0. RETURN-AIR-PATH = DUCT  
 ZONE-NAMES = (EMCLUB) ..

AHU\_2 =SYSTEM SYSTEM-TYPE = VAVS  
 MAX-SUPPLY-T = 135.0 MIN-SUPPLY-T = 57.0  
 HEATING-SCHEDULE = HEAT\_AVAIL  
 COOLING-SCHEDULE = COOL\_AVAIL PREHEAT-T = 41.0  
 MIN-HUMIDITY = 30.0 ECONO-LIMIT-T = 65.0  
 ECONO-LOW-LIMIT = 55.0 COOL-CONTROL = WARMEST  
 SUPPLY-CFM = 4500. RETURN-CFM = 2925.  
 RATED-CFM = 4500. MIN-OUTSIDE-AIR = 0.35  
 FAN-SCHEDULE = FAN\_W\_SB SUPPLY-DELTA-T = 3.4  
 SUPPLY-KW = 0.00109 NIGHT-CYCLE-CTRL = CYCLE-ON-ANY  
 NIGHT-VENT-DT = 0.0 MIN-CFM-RATIO = 0.4  
 REHEAT-DELTA-T = 50. COOLING-CAPACITY = 214300.  
 FURNACE-AUX = 0. SIZING-OPTION = COINCIDENT  
 ZONE-NAMES = (LOBBY) ..

DX\_UNITS =SYSTEM SYSTEM-TYPE = PSZ  
 MAX-SUPPLY-T = 65.0 MIN-SUPPLY-T = 45.0  
 HEATING-SCHEDULE = FULL\_OFF  
 COOLING-SCHEDULE = COOL\_AVAIL SUPPLY-CFM = 800.  
 RATED-CFM = 800. MIN-OUTSIDE-AIR = 1.0  
 MIN-AIR-SCH = FULL\_ON FAN-SCHEDULE = FAN\_W\_SB  
 SUPPLY-DELTA-T = 1.8 SUPPLY-KW = 0.00059  
 MAX-FAN-RATIO = 1.0 MIN-FAN-RATIO = 1.0  
 NIGHT-CYCLE-CTRL = STAY-OFF NIGHT-VENT-DT = 0.0  
 MIN-CFM-RATIO = 1.0 COOLING-CAPACITY = 24000.

COOL-SH-CAP = 18555. COOL-FT-MIN = 0.  
 FURNACE-AUX = 0. CRANKCASE-MAX-T = 0.  
 OUTSIDE-FAN-T = 45.  
 ZONE-NAMES = (EMCLUB\_B) ..

END ..  
 COMPUTE SYSTEMS ..  
 INPUT PLANT ..

\$-----\$  
 \$ E Z - D O E P L A N T S I N P U T \$  
 \$-----\$

\$ GENERAL PROJECT DATA

TITLE LINE-1 \* EMC ENGINEERS INC. \*  
 LINE-2 \*EZDOB - ELITE SOFTWARE DEVELOPMENT INC\*  
 LINE-3 \* DENVER, CO 80227 \*  
 LINE-4 \*BUILDING 10207 EXCHANGE/CLUB \*  
 LINE-5 \*MODEL WITH SET BACK & ECONOMIZER \* ..  
 ABORT ERRORS ..  
 DIAGNOSTIC WARNINGS ..  
 PLANT-REPORT SUMMARY=(PS-A, PS-B, PS-C, PS-D, PS-G, PS-H, PS-I,  
 BEPS)  
 ..

\$ SCHEDULES

DAY\_ON =DAY-SCHEDULE (1,7) (0.)  
 (8,18) (1.)  
 (19,24) (0.) ..  
 FULL\_ON =WEEK-SCHEDULE (ALL) DAY\_ON ..  
 \$ heating plant schedule  
 heating =SCHEDULE THRU DEC 31 FULL\_ON ..

\$ EQUIPMENT DESCRIPTION

BOILER =PLANT-EQUIPMENT TYPE = HW-BOILER  
 SIZE = 0.8 ..  
 CHILLER =PLANT-EQUIPMENT TYPE = OPEN-REC-CHLR  
 SIZE = 0.9 ..  
 PLANT-PARAMETERS BOILER-FUEL = NATURAL-GAS BOILER-CONTROL = STANDBY  
 MAKEUP-WTR-T = 50. STM-BOILER-HIR = 0.76  
 HW-BOILER-HIR = 1.27 OPEN-REC-COND-TYPE = AIR  
 HERM-REC-COND-TYPE = AIR MIN-COND-AIR-T = 35.  
 CCIRC-HEAD = 80.0 HCIRC-HEAD = 40.0 ..  
 PART-LOAD-RATIO TYPE = HW-BOILER  
 MIN-RATIO = 0.2500 MAX-RATIO = 1.0000  
 OPERATING-RATIO = 1.0000 ELEC-INPUT-RATIO = 0.0220 ..  
 ENERGY-RESOURCE RESOURCE = ELECTRICITY ..  
 ENERGY-RESOURCE RESOURCE = NATURAL-GAS ..

END ..  
 COMPUTE PLANT ..  
 STOP ..

ENERGY TYPE IN SITE MBTU-	ELECTRICITY	NATURAL-GAS
CATEGORY OF USE		
SPACE HEAT	48.61	1,173.44
SPACE COOL	264.88	0.00
HVAC AUX	334.59	0.00
DOM HOT WTR	4.93	97.75
AUX SOLAR	0.00	0.00
LIGHTS	487.09	0.00
VERT TRANS	0.00	0.00
MISC EQUIP	900.63	0.00
	<hr/>	<hr/>
TOTAL	2,040.72	1,271.20

TOTAL SITE ENERGY 3311.99 MBTU 182.0 KBTU/SQFT-YR GROSS-AREA 182.0 KBTU/SQFT-YR NET-AREA  
 TOTAL SOURCE ENERGY 7399.66 MBTU 406.6 KBTU/SQFT-YR GROSS-AREA 406.5 KBTU/SQFT-YR NET-AREA

PERCENT OF HOURS ANY SYSTEM ZONE OUTSIDE OF THROTTLING RANGE = 52.1  
 PERCENT OF HOURS ANY PLANT LOAD NOT SATISFIED = 0.1

NOTE ELECTRICITY AND/OR FUEL USED TO GENERATE ELECTRICITY IS APPORTIONED BASED  
 ON THE YEARLY DEMAND. ALL OTHER ENERGY TYPES ARE APPORTIONED HOURLY.

MO	UTILITY-	ELECTRICITY	NATURAL-GAS
	TOTAL (MBTU)	151.965	266.452
JAN	PEAK (KBTU)	353.862	1016.000
	DY/HR	27/22	6/13
	TOTAL (MBTU)	137.316	208.840
FEB	PEAK (KBTU)	353.521	914.035
	DY/HR	27/22	5/11
	TOTAL (MBTU)	152.241	202.125
MAR	PEAK (KBTU)	353.521	856.470
	DY/HR	28/22	9/11
	TOTAL (MBTU)	146.367	116.187
APR	PEAK (KBTU)	352.355	623.511
	DY/HR	2/22	3/11
	TOTAL (MBTU)	169.817	43.984
MAY	PEAK (KBTU)	495.950	453.168
	DY/HR	31/22	3/11
	TOTAL (MBTU)	197.196	8.187
JUN	PEAK (KBTU)	534.078	11.371
	DY/HR	28/19	30/ 1
	TOTAL (MBTU)	221.298	8.460
JUL	PEAK (KBTU)	559.684	11.371
	DY/HR	17/19	31/ 1
	TOTAL (MBTU)	208.777	8.460
AUG	PEAK (KBTU)	548.572	11.371
	DY/HR	9/22	31/ 1
	TOTAL (MBTU)	192.372	8.187
SEP	PEAK (KBTU)	560.648	11.371
	DY/HR	1/22	30/ 1
	TOTAL (MBTU)	164.633	50.108
OCT	PEAK (KBTU)	449.167	474.391
	DY/HR	8/22	26/11
	TOTAL (MBTU)	146.873	134.863
NOV	PEAK (KBTU)	353.521	624.627
	DY/HR	28/22	27/11
	TOTAL (MBTU)	151.915	215.364
DEC	PEAK (KBTU)	353.521	908.727
	DY/HR	30/22	28/11
	ONE YEAR	2040.770	1271.218
	USE/PEAK	560.648	1016.000

**COMPUTER SIMULATIONS**  
**BUILDING 10207**

RUN 3 - DDC



INPUT LOADS ..

\$-----\$  
\$ E Z - D O E L O A D S I N P U T \$  
\$-----\$

\$ GENERAL PROJECT DATA

TITLE LINE-1 \* EMC ENGINEERS INC. \*  
LINE-2 \*EZDOE - ELITE SOFTWARE DEVELOPMENT INC\*  
LINE-3 \* DENVER, CO 80227 \*  
LINE-4 \*BUILDING 10207 EXCHANGE/CLUB \*  
LINE-5 \*MODEL WITH SETBACK.ECONOMIZER, & DDC \* ..

ABORT ERRORS ..  
DIAGNOSTIC WARNINGS ..  
LOADS-REPORT SUMMARY=(LS-A,LS-B,LS-C,LS-D,LS-E,LS-F,LS-G,  
LS-H,LS-I,LS-J,LS-K,LS-L) ..  
BUILDING-LOCATION LATITUDE = 44.0  
ALTITUDE = 655.  
AZIMUTH = -40.  
TIME-ZONE = 5  
GROSS-AREA = 18199  
HOLIDAY = NO  
SHIELDING-COEF = 0.19  
HEAT-PEAK-PERIOD = ( 6, 7)  
COOL-PEAK-PERIOD = ( 15, 16)  
X-REF = 0.0  
Y-REF = 0.0 ..  
RUN-PERIOD JAN 1 1994 THRU DEC 31 1994 ..

\$ SCHEDULES

PEOPLE =DAY-SCHEDULE (1,2) (0.8)  
(3,11) (0.)  
(12,13) (0.2)  
(14,15) (0.3)  
(16,17) (0.5)  
(18,19) (0.7)  
(20,21) (0.8)  
(22,24) (0.9) ..  
FULL\_ON =DAY-SCHEDULE (1,24) (1.) ..  
FULL\_OFFD =DAY-SCHEDULE (1,24) (0.) ..  
LIGHT\_ON\_D =DAY-SCHEDULE (1,2) (0.8)  
(3) (0.5)  
(4,8) (0.)  
(9,12) (0.1,0.2,0.4,0.5)  
(13,17) (0.6)  
(18,21) (0.7)  
(22,24) (0.8) ..  
INT\_LDS\_D =DAY-SCHEDULE (1,2) (0.3)  
(3) (0.1)  
(4,10) (0.)  
(11,14) (0.4,0.6,0.4,0.5)  
(15,17) (0.6)  
(18) (0.7)  
(19,20) (0.8)  
(21,22) (0.9)  
(23,24) (0.8,0.7) ..  
PEOPLE\_W =WEEK-SCHEDULE (ALL) PEOPLE ..  
LIGHTS\_WK =WEEK-SCHEDULE (ALL) LIGHT\_ON\_D ..  
APPLI\_WK =WEEK-SCHEDULE (ALL) INT\_LDS\_D ..  
CND\_WK =WEEK-SCHEDULE (ALL) FULL\_ON ..  
FULL\_OFFW =WEEK-SCHEDULE (ALL) FULL\_OFFD ..  
FULL\_ON\_W =WEEK-SCHEDULE (ALL) FULL\_ON ..

\$ PEOPLE SCHEDULE  
OCCUPANCY =SCHEDULE THRU DEC 31 PEOPLE\_W ..

\$ LOADS SCHED  
INTLOADS =SCHEDULE THRU DEC 31 APPLI\_WK ..

\$ LIGHTING SCHEDULE  
LIGHTS\_ON =SCHEDULE THRU DEC 31 LIGHTS\_WK ..

\$ APPLIANCE SCHEDULE  
APPLI\_ON =SCHEDULE THRU DEC 31 APPLI\_WK ..

\$ COND VENTIL SCHED  
CND\_SCHED =SCHEDULE THRU FEB 28 FULL\_OFFW  
THRU NOV 30 CND\_WK  
THRU DEC 31 FULL\_OFFW ..

FULL\_ON\_SD =SCHEDULE THRU DEC 31 FULL\_ON\_W ..

\$ CONSTRUCTION TYPES

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$ ROOF CONSTRUCTION
ROOFCON =CONSTRUCTION U-VALUE = 0.050 ..

$ EXTERIOR WALL CONSTRUCTION
EXWALL =CONSTRUCTION U-VALUE = 0.200 ..

$ INTERIOR WALL CONSTRUCTION
INWALL =CONSTRUCTION U-VALUE = 0.500 ..

$ DOOR CONSTRUCTION
DOORCON =CONSTRUCTION U-VALUE = 1.000 ..

$ FLOOR SLAB
FLOOR =CONSTRUCTION U-VALUE = 0.100 ..
IMAGWALL =CONSTRUCTION U-VALUE = 20.000 ..

GTYPE_1 =GLASS-TYPE SHADING-COEF = 0.800
PANES = 1
GLASS-CONDUCTANCE = 1.130 ..
GTYPE_2 =GLASS-TYPE SHADING-COEF = 0.300
PANES = 1
GLASS-CONDUCTANCE = 0.790 ..
GTYPE_3 =GLASS-TYPE SHADING-COEF = 0.400
PANES = 1
GLASS-CONDUCTANCE = 0.360 ..

$ SPACE DESCRIPTION

RETAILSALS =SPACE AREA = 3910.0 VOLUME = 35190.0
TEMPERATURE = (65.) ZONE-TYPE = CONDITIONED
PEOPLE-SCHEDULE = OCCUPANCY NUMBER-OF-PEOPLE = 15.0
PEOPLE-HEAT-GAIN = 550.0
LIGHTING-TYPE = REC-FLUOR-RV LIGHTING-KW = 4.4
LIGHTING-SCHEDULE = LIGHTS_ON
EQUIP-SCHEDULE = INTLOADS EQUIPMENT-KW = 2.0
INF-METHOD = AIR-CHANGE AIR-CHANGES/HR = 0.15
INF-SCHEDULE = FULL_ON_SD ..

E-W HEIGHT = 9.0 WIDTH = 71.0 CONS = EXWALL
AZIMUTH = 0 ..

DOOR HEIGHT = 7.0 WIDTH = 3.0 CONS = DOORCON ..

ROOF HEIGHT = 52.0 WIDTH = 71.0 CONS = ROOFCON
TILT = 0 ..

U-W HEIGHT = 52.0 WIDTH = 71.0 CONS = FLOOR ..

I-W HEIGHT = 9.0 WIDTH = 48.0 CONS = INWALL
NEXT-TO = KITCHEN ..

LOBBY =SPACE AREA = 5440.0 VOLUME = 48960.0
TEMPERATURE = (65.) ZONE-TYPE = CONDITIONED
PEOPLE-SCHEDULE = OCCUPANCY NUMBER-OF-PEOPLE = 100.0
PEOPLE-HEAT-GAIN = 1000.0 LIGHTING-TYPE = INCAND
LIGHTING-KW = 10.8 LIGHTING-SCHEDULE = LIGHTS_ON
EQUIP-SCHEDULE = INTLOADS EQUIPMENT-KW = 2.0
INF-METHOD = AIR-CHANGE AIR-CHANGES/HR = 0.25
INF-SCHEDULE = FULL_ON_SD ..

E-W HEIGHT = 9.0 WIDTH = 147.0 CONS = EXWALL
AZIMUTH = 180 ..

E-W HEIGHT = 9.0 WIDTH = 32.0 CONS = EXWALL
AZIMUTH = 270 ..

E-W HEIGHT = 9.0 WIDTH = 38.0 CONS = EXWALL
AZIMUTH = 90 ..

U-W HEIGHT = 147.0 WIDTH = 38.0 CONS = FLOOR ..

ROOF HEIGHT = 136.0 WIDTH = 40.0 CONS = ROOFCON
TILT = 0 ..

FOODAREA =SPACE AREA = 3072.0 VOLUME = 27648.0
TEMPERATURE = (65.) ZONE-TYPE = CONDITIONED
PEOPLE-SCHEDULE = OCCUPANCY NUMBER-OF-PEOPLE = 150.0
PEOPLE-HEAT-GAIN = 1000.0 LIGHTING-TYPE = INCAND
LIGHTING-KW = 8.6 LIGHTING-SCHEDULE = LIGHTS_ON
EQUIP-SCHEDULE = INTLOADS EQUIPMENT-KW = 47.5
SOURCE-SCHEDULE = FULL_ON_SD SOURCE-TYPE = HOT-WATER
SOURCE-BTU/HR = 6849.0 SOURCE-SENSIBLE = 0.3
SOURCE-LATENT = 0.4 INF-METHOD = AIR-CHANGE
AIR-CHANGES/HR = 0.1 INF-SCHEDULE = FULL_ON_SD ..

ROOF HEIGHT = 48.0 WIDTH = 64.0 CONS = ROOFCON
TILT = 0 ..

U-W HEIGHT = 48.0 WIDTH = 64.0 CONS = FLOOR ..

I-W HEIGHT = 9.0 WIDTH = 48.0 CONS = INWALL
NEXT-TO = KITCHEN ..

EMCLUB =SPACE AREA = 2000.0 VOLUME = 18000.0
TEMPERATURE = (65.) ZONE-TYPE = CONDITIONED
PEOPLE-SCHEDULE = OCCUPANCY NUMBER-OF-PEOPLE = 300.0
PEOPLE-HEAT-GAIN = 1360.0 PEOPLE-HG-LAT = 875.0
PEOPLE-HG-SENS = 405.0 LIGHTING-TYPE = INCAND
LIGHTING-KW = 6.7 LIGHTING-SCHEDULE = LIGHTS_ON
EQUIP-SCHEDULE = INTLOADS EQUIPMENT-KW = 4.0
INF-METHOD = AIR-CHANGE AIR-CHANGES/HR = 0.15
INF-SCHEDULE = FULL_ON_SD ..

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E-W      HEIGHT = 9.0  WIDTH = 70.0  CONS = EXWALL
        AZIMUTH = 180  ..

ROOF      HEIGHT = 70.0  WIDTH = 40.0  CONS = ROOFCON
        TILT = 0  ..

U-W      HEIGHT = 70.0  WIDTH = 40.0  CONS = FLOOR ..

I-W      HEIGHT = 9.0  WIDTH = 40.0  CONS = INWALL
        NEXT-TO = KITCHEN  ..

KITCHEN  =SPACE  AREA = 2880.0  VOLUME = 25920.0
        TEMPERATURE = (55.)  ZONE-TYPE = CONDITIONED
        PEOPLE-SCHEDULE = OCCUPANCY  NUMBER-OF-PEOPLE = 20.0
        PEOPLE-HEAT-GAIN = 1000.0  LIGHTING-TYPE = INCAND
        LIGHTING-KW = 3.5  LIGHTING-SCHEDULE = LIGHTS_ON
        EQUIP-SCHEDULE = FULL_ON_SD  EQUIPMENT-KW = 7.0
        INF-METHOD = AIR-CHANGE  AIR-CHANGES/HR = 0.2
        INF-SCHEDULE = FULL_ON_SD  ..

E-W      HEIGHT = 9.0  WIDTH = 20.0  CONS = EXWALL
        AZIMUTH = 180  ..

E-W      HEIGHT = 9.0  WIDTH = 144.0  CONS = EXWALL
        AZIMUTH = 90  ..

E-W      HEIGHT = 9.0  WIDTH = 20.0  CONS = EXWALL
        AZIMUTH = 0  ..

ROOF      HEIGHT = 20.0  WIDTH = 144.0  CONS = ROOFCON
        TILT = 0  ..

U-W      HEIGHT = 20.0  WIDTH = 144.0  CONS = FLOOR ..

I-W      HEIGHT = 9.0  WIDTH = 48.0  CONS = INWALL
        AZIMUTH = 180  NEXT-TO = RETAILSALS  ..

I-W      HEIGHT = 9.0  WIDTH = 48.0  CONS = INWALL
        AZIMUTH = 180  NEXT-TO = FOODAREA  ..

I-W      HEIGHT = 9.0  WIDTH = 40.0  CONS = INWALL
        AZIMUTH = 180  NEXT-TO = EMCLUB  ..

EMCLUB_B  =SPACE  AREA = 900.0  VOLUME = 8100.0
        TEMPERATURE = (65.)  ZONE-TYPE = CONDITIONED
        PEOPLE-SCHEDULE = OCCUPANCY
        LIGHTING-SCHEDULE = OCCUPANCY
        EQUIP-SCHEDULE = OCCUPANCY  FLOOR-WEIGHT = 0.1
        INF-METHOD = AIR-CHANGE  ..

I-W      HEIGHT = 9.0  WIDTH = 500.0  CONS = IMAGWALL
        AZIMUTH = 90  NEXT-TO = EMCLUB  ..

END  ..
COMPUTE LOADS  ..

INPUT SYSTEMS  ..

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$-----$
$ E Z - D O E   S Y S T E M S   I N P U T $
$-----$

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#### \$ GENERAL PROJECT DATA

```

TITLE  LINE-1 *   EMC   ENGINEERS   INC.   *
        LINE-2 *EZDOE - ELITE SOFTWARE DEVELOPMENT INC*
        LINE-3 *   DENVER,   CO   80227   *
        LINE-4 *BUILDING 10207   EXCHANGE/CLUB   *
        LINE-5 *MODEL WITH SETBACK.ECONOMIZER, & DDC   * ..

ABORT  ERRORS ..
DIAGNOSTIC  WARNINGS ..
SYSTEMS-REPORT  SUMMARY={SS-A,SS-B,SS-C,SS-D,SS-E,SS-F,SS-G,
                        SS-H,SS-I,SS-J,SS-K,SS-L,SS-M,SS-N,
                        SS-O)  ..

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#### \$ SCHEDULES

```

FULL_ON_D  =DAY-SCHEDULE  (1,24) (1.)  ..
HEAT_D     =DAY-SCHEDULE  (1,24) (68.)  ..
COOL_D     =DAY-SCHEDULE  (1,24) (75.)  ..
FULL_OFF_D =DAY-SCHEDULE  (1,24) (0.)  ..
AHU1_SCH   =DAY-SCHEDULE  (1,5) (0.)  ..
           (6,20) (1.)  ..
           (21,24) (0.)  ..
HT_AHU1_D  =DAY-SCHEDULE  (1,5) (55.)  ..
           (6,20) (68.)  ..
           (21,24) (55.)  ..
AHU_SCH_D  =DAY-SCHEDULE  (1,2) (1.)  ..
           (3,10) (0.)  ..
           (11,24) (1.)  ..
HT_60_D    =DAY-SCHEDULE  (1,24) (55.)  ..
AHU_2_ON_D =DAY-SCHEDULE  (1,2) (1.)  ..
           (3,5) (0.)  ..
           (6,15) (1.)  ..
           (16) (0.)  ..
           (17,24) (1.)  ..
AHU_2_HT_D =DAY-SCHEDULE  (1,2) (68.)  ..
           (3,5) (55.)  ..
           (6,24) (68.)  ..
DX_ON_D     =DAY-SCHEDULE  (1,3) (1.)  ..
           (4,18) (0.)  ..
           (19,24) (1.)  ..
HT_W_SB_D  =DAY-SCHEDULE  (1,2) (68.)  ..

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(3,10) (0.)
(11,24) (68.) ..
(1,2) (75.)
(3,10) (85.)
(11,24) (75.) ..
FAN_W_SB_D =DAY-SCHEDULE (1,2) (1.)
(3,10) (0.)
(11,24) (1.) ..

FULL_ON_W =WEEK-SCHEDULE (ALL) FULL_ON_D ..
HEAT_W =WEEK-SCHEDULE (ALL) HEAT_D ..
COOL_W =WEEK-SCHEDULE (ALL) COOL_D ..
FULL_OFF_W =WEEK-SCHEDULE (ALL) FULL_OFF_D ..
AHU_SCHD_W =WEEK-SCHEDULE (ALL) AHU_SCH_D ..
AHU1_W =WEEK-SCHEDULE (ALL) AHU1_SCH ..
HT_AHU1_W =WEEK-SCHEDULE (ALL) HT_AHU1_D ..
HEAT_60_W =WEEK-SCHEDULE (ALL) HT_60_D ..
AHU_2_ON_W =WEEK-SCHEDULE (ALL) AHU_2_ON_D ..
AHU_2_HT_W =WEEK-SCHEDULE (ALL) AHU_2_HT_D ..
DX_ON_W =WEEK-SCHEDULE (ALL) DX_ON_D ..
HT_W_SB_W =WEEK-SCHEDULE (ALL) HT_W_SB_D ..
CL_W_SB_W =WEEK-SCHEDULE (ALL) CL_W_SB_D ..
FAN_W_SB_W =WEEK-SCHEDULE (ALL) FAN_W_SB_D ..

FULL_ON =SCHEDULE THRU DEC 31 FULL_ON_W ..
$ HEATING SCHEDULE
HEAT_ON =SCHEDULE THRU DEC 31 HEAT_W ..
$ COOLING SCHEDULE
COOL_ON =SCHEDULE THRU DEC 31 COOL_W ..
FULL_OFF =SCHEDULE THRU DEC 31 FULL_OFF_W ..
HT_AHU1_SD =SCHEDULE THRU DEC 31 HT_AHU1_W ..
$ MATCHES OCCUPANCY
AHU_SCHDL =SCHEDULE THRU DEC 31 AHU_SCHD_W ..
AHU1_SCHD =SCHEDULE THRU DEC 31 AHU1_W ..
HEAT_60 =SCHEDULE THRU DEC 31 HEAT_60_W ..
AHU_2_ON =SCHEDULE THRU DEC 31 AHU_2_ON_W ..
AHU_2_HT =SCHEDULE THRU DEC 31 AHU_2_HT_W ..
$ 2X10TON DX UNIT SCHD
DX_ON_SCHD =SCHEDULE THRU MAY 15 DX_ON_W
THRU NOV 30 FULL_ON_W
THRU DEC 31 DX_ON_W ..
HT_W_SB =SCHEDULE THRU DEC 31 HT_W_SB_W ..
CL_W_SB =SCHEDULE THRU DEC 31 CL_W_SB_W ..
FAN_W_SB =SCHEDULE THRU DEC 31 FAN_W_SB_W ..
$ HEATING AVAILABLE
HEAT_AVAIL =SCHEDULE THRU MAY 15 FULL_ON_W
THRU OCT 15 FULL_OFF_W
THRU DEC 31 FULL_ON_W ..
$ COOLING AVAILABLE
COOL_AVAIL =SCHEDULE THRU MAY 15 FULL_OFF_W
THRU OCT 15 FULL_ON_W
THRU DEC 31 FULL_OFF_W ..
$ FAN SCHEDULE W SETBACK
DXUNIT_FAN =SCHEDULE THRU MAY 15 FULL_OFF_W
THRU OCT 15 FAN_W_SB_W
THRU DEC 31 FULL_OFF_W ..

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# \$ ZONE DESCRIPTION

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RETAILSALS =ZONE DESIGN-HEAT-T = 68.0 DESIGN-COOL-T = 75.0
HEAT-TEMP-SCH = HT_W_SB COOL-TEMP-SCH = CL_W_SB
ZONE-TYPE = CONDITIONED
THERMOSTAT-TYPE = PROPORTIONAL
BASEBOARD-CTRL = THERMOSTATIC ASSIGNED-CFM = 2500.
OUTSIDE-AIR-CFM = 875. SIZING-OPTION = FROM-LOADS
RATED-CFM = 2500.0 MIN-CFM-RATIO = 1.0
HEATING-CAPACITY = -152200.0 ..

LOBBY =ZONE DESIGN-HEAT-T = 68.0 DESIGN-COOL-T = 75.0
HEAT-TEMP-SCH = HT_W_SB COOL-TEMP-SCH = CL_W_SB
ZONE-TYPE = CONDITIONED
THERMOSTAT-TYPE = PROPORTIONAL THROTTLING-RANGE = 1.0
BASEBOARD-CTRL = THERMOSTATIC ASSIGNED-CFM = 4500.
OUTSIDE-AIR-CFM = 1575. SIZING-OPTION = FROM-LOADS
RATED-CFM = 4500.0 MIN-CFM-RATIO = 0.4
HEATING-CAPACITY = -278000.0 ..

```

FOODAREA =ZONE DESIGN-HEAT-T = 68.0 DESIGN-COOL-T = 75.0  
HEAT-TEMP-SCH = HT W SB COOL-TEMP-SCH = CL\_W\_SB  
ZONE-TYPE = CONDITIONED  
THERMOSTAT-TYPE = PROPORTIONAL THROTTLING-RANGE = 1.0  
BASEBOARD-CTRL = THERMOSTATIC ASSIGNED-CFM = 4900.  
OUTSIDE-AIR-CFM = 1715. SIZING-OPTION = FROM-LOADS  
RATED-CFM = 4900.0 MIN-CFM-RATIO = 1.0  
HEATING-CAPACITY = -201000.0 ..

EMCLUB =ZONE DESIGN-HEAT-T = 68.0 DESIGN-COOL-T = 75.0  
HEAT-TEMP-SCH = HT W SB COOL-TEMP-SCH = CL\_W\_SB  
ZONE-TYPE = CONDITIONED  
THERMOSTAT-TYPE = PROPORTIONAL THROTTLING-RANGE = 1.0  
BASEBOARD-CTRL = THERMOSTATIC ASSIGNED-CFM = 4000.  
OUTSIDE-AIR-CFM = 1400. SIZING-OPTION = FROM-LOADS  
RATED-CFM = 4000.0 MIN-CFM-RATIO = 1.0  
HEATING-CAPACITY = -138000.0 ..

KITCHEN =ZONE DESIGN-HEAT-T = 60.0 DESIGN-COOL-T = 90.0  
HEAT-TEMP-SCH = HEAT 60 COOL-TEMP-SCH = CL\_W\_SB  
ZONE-TYPE = CONDITIONED  
THERMOSTAT-TYPE = PROPORTIONAL THROTTLING-RANGE = 1.0  
BASEBOARD-CTRL = THERMOSTATIC  
BASEBOARD-RATING = -72433. ASSIGNED-CFM = 1200.  
OUTSIDE-AIR-CFM = 420. SIZING-OPTION = FROM-LOADS  
RATED-CFM = 1200.0 MIN-CFM-RATIO = 1.0 ..

EMCLUB\_B =ZONE DESIGN-HEAT-T = 68.0 DESIGN-COOL-T = 75.0  
ZONE-TYPE = CONDITIONED  
THERMOSTAT-TYPE = PROPORTIONAL THROTTLING-RANGE = 1.0  
BASEBOARD-CTRL = THERMOSTATIC ASSIGNED-CFM = 800.  
OUTSIDE-AIR-CFM = 800. SIZING-OPTION = FROM-LOADS  
RATED-CFM = 800.0 MIN-CFM-RATIO = 1.0  
MIN-CFM-SCH = FULL\_ON EXHAUST-CFM = 800.0 ..

\$ SYSTEM DESCRIPTION

AHU\_1 =SYSTEM SYSTEM-TYPE = SZRH  
MAX-SUPPLY-T = 135.0 MIN-SUPPLY-T = 57.0  
HEATING-SCHEDULE = HEAT\_AVAIL  
COOLING-SCHEDULE = COOL\_AVAIL HEAT-SET-T = 135.0  
PREHEAT-T = 41.0 MIN-HUMIDITY = 30.0  
ECONO-LIMIT-T = 65.0 ECONO-LOW-LIMIT = 55.0  
SUPPLY-CFM = 2500. RETURN-CFM = 1625.  
RATED-CFM = 2500. MIN-OUTSIDE-AIR = 0.35  
FAN-SCHEDULE = FAN W\_SB SUPPLY-DELTA-T = 2.4  
SUPPLY-KW = 0.0009 NIGHT-CYCLE-CTRL = CYCLE-ON-ANY  
NIGHT-VENT-DT = 0.0 MIN-CFM-RATIO = 1.0  
REHEAT-DELTA-T = 50. COOLING-CAPACITY = 100000.  
FURNACE-AUX = 0. RETURN-AIR-PATH = DUCT  
ZONE-NAMES = (RETAILSALS) ..

AHU\_3 =SYSTEM SYSTEM-TYPE = SZRH  
MAX-SUPPLY-T = 135.0 MIN-SUPPLY-T = 57.0  
HEATING-SCHEDULE = HEAT\_AVAIL  
COOLING-SCHEDULE = COOL\_AVAIL HEAT-SET-T = 135.0  
PREHEAT-T = 41.0 MIN-HUMIDITY = 30.0  
ECONO-LIMIT-T = 65.0 ECONO-LOW-LIMIT = 55.0  
SUPPLY-CFM = 6100. RETURN-CFM = 4700.  
RATED-CFM = 6100. MIN-OUTSIDE-AIR = 0.35  
FAN-SCHEDULE = FAN W\_SB SUPPLY-DELTA-T = 2.4  
SUPPLY-KW = 0.00092 NIGHT-CYCLE-CTRL = CYCLE-ON-ANY  
NIGHT-VENT-DT = 0.0 MIN-CFM-RATIO = 1.0  
REHEAT-DELTA-T = 50. COOLING-CAPACITY = 260500.  
FURNACE-AUX = 0. RETURN-AIR-PATH = DUCT  
ZONE-NAMES = (FOODAREA, KITCHEN) ..

AHU\_4 =SYSTEM SYSTEM-TYPE = SZRH  
MAX-SUPPLY-T = 135.0 MIN-SUPPLY-T = 57.0  
HEATING-SCHEDULE = HEAT\_AVAIL  
COOLING-SCHEDULE = COOL\_AVAIL HEAT-SET-T = 135.0  
PREHEAT-T = 41.0 MIN-HUMIDITY = 30.0  
ECONO-LIMIT-T = 65.0 ECONO-LOW-LIMIT = 55.0  
SUPPLY-CFM = 4000. RETURN-CFM = 2600.  
RATED-CFM = 4000. MIN-OUTSIDE-AIR = 0.35  
FAN-SCHEDULE = FAN W\_SB SUPPLY-DELTA-T = 2.4  
SUPPLY-KW = 0.00078 NIGHT-CYCLE-CTRL = CYCLE-ON-ANY  
NIGHT-VENT-DT = 0.0 MIN-CFM-RATIO = 1.0  
REHEAT-DELTA-T = 50. COOLING-CAPACITY = 240000.  
FURNACE-AUX = 0. RETURN-AIR-PATH = DUCT  
ZONE-NAMES = (EMCLUB) ..

AHU\_2 =SYSTEM SYSTEM-TYPE = VAVS  
MAX-SUPPLY-T = 135.0 MIN-SUPPLY-T = 57.0  
HEATING-SCHEDULE = HEAT\_AVAIL  
COOLING-SCHEDULE = COOL\_AVAIL PREHEAT-T = 41.0  
MIN-HUMIDITY = 30.0 ECONO-LIMIT-T = 65.0  
ECONO-LOW-LIMIT = 55.0 COOL-CONTROL = WARMEST  
SUPPLY-CFM = 4500. RETURN-CFM = 2925.  
RATED-CFM = 4500. MIN-OUTSIDE-AIR = 0.35  
FAN-SCHEDULE = FAN W\_SB SUPPLY-DELTA-T = 3.4  
SUPPLY-KW = 0.00109 NIGHT-CYCLE-CTRL = CYCLE-ON-ANY  
NIGHT-VENT-DT = 0.0 MIN-CFM-RATIO = 0.4  
REHEAT-DELTA-T = 50. COOLING-CAPACITY = 214300.  
FURNACE-AUX = 0. SIZING-OPTION = COINCIDENT  
ZONE-NAMES = (LOBBY) ..

DX\_UNITS =SYSTEM SYSTEM-TYPE = PSZ  
MAX-SUPPLY-T = 65.0 MIN-SUPPLY-T = 45.0  
HEATING-SCHEDULE = FULL\_OFF  
COOLING-SCHEDULE = COOL\_AVAIL SUPPLY-CFM = 800.  
RATED-CFM = 800. MIN-OUTSIDE-AIR = 1.0  
MIN-AIR-SCH = FULL\_ON FAN-SCHEDULE = FAN W\_SB  
SUPPLY-DELTA-T = 1.8 SUPPLY-KW = 0.00059  
MAX-FAN-RATIO = 1.0 MIN-FAN-RATIO = 1.0  
NIGHT-CYCLE-CTRL = STAY-OFF NIGHT-VENT-DT = 0.0  
MIN-CFM-RATIO = 1.0 COOLING-CAPACITY = 24000.

COOL-SH-CAP = 18555. COOL-FT-MIN = 0.  
 FURNACE-AUX = 0. CRANKCASE-MAX-T = 0.  
 OUTSIDE-FAN-T = 45.  
 ZONE-NAMES = (EMCLUB\_B) ..

END ..  
 COMPUTE SYSTEMS ..

INPUT PLANT ..

\$-----\$  
 \$ E Z - D O E P L A N T S I N P U T \$  
 \$-----\$

\$ GENERAL PROJECT DATA

TITLE LINE-1 \* EMC ENGINEERS INC. \*  
 LINE-2 \*EZDOE - ELITE SOFTWARE DEVELOPMENT INC\*  
 LINE-3 \* DENVER, CO 80227 \*  
 LINE-4 \*BUILDING 10207 EXCHANGE/CLUB \*  
 LINE-5 \*MODEL WITH SETBACK.ECONOMIZER, & DDC \* ..

ABORT ERRORS ..  
 DIAGNOSTIC WARNINGS ..  
 PLANT-REPORT SUMMARY=(PS-A,PS-B,PS-C,PS-D,PS-G,PS-H,PS-I,  
 BEPS)  
 ..

\$ SCHEDULES

DAY\_ON =DAY-SCHEDULE (1,7) (0.)  
 (8,18) (1.)  
 (19,24) (0.) ..

FULL\_ON =WEEK-SCHEDULE (ALL) DAY\_ON ..

\$ heating plant schedule  
 heating =SCHEDULE THRU DEC 31 FULL\_ON ..

\$ EQUIPMENT DESCRIPTION

BOILER =PLANT-EQUIPMENT TYPE = HW-BOILER  
 SIZE = 0.8 ..  
 CHILLER =PLANT-EQUIPMENT TYPE = OPEN-REC-CHLR  
 SIZE = 0.9 ..  
 PLANT-PARAMETERS BOILER-FUEL = NATURAL-GAS BOILER-CONTROL = STANDBY  
 MAKEUP-WTR-T = 50. STM-BOILER-HIR = 0.76  
 HW-BOILER-HIR = 1.27 OPEN-REC-COND-TYPE = AIR  
 HERM-REC-COND-TYPE = AIR MIN-COND-AIR-T = 35.  
 CCIRC-HEAD = 80.0 HCIRC-HEAD = 40.0 ..  
 PART-LOAD-RATIO TYPE = HW-BOILER  
 MIN-RATIO = 0.2500 MAX-RATIO = 1.0000  
 OPERATING-RATIO = 1.0000 ELEC-INPUT-RATIO = 0.0220 ..  
 ENERGY-RESOURCE RESOURCE = ELECTRICITY ..  
 ENERGY-RESOURCE RESOURCE = NATURAL-GAS ..

END ..  
 COMPUTE PLANT ..  
 STOP ..

ENERGY TYPE IN SITE MBTU-	ELECTRICITY	NATURAL-GAS
CATEGORY OF USE		
SPACE HEAT	42.51	957.83
SPACE COOL	265.04	0.00
HVAC AUX	333.07	0.00
DOM HOT WTR	5.05	98.42
AUX SOLAR	0.00	0.00
LIGHTS	487.09	0.00
VERT TRANS	0.00	0.00
MISC EQUIP	900.63	0.00
	-----	-----
TOTAL	2,033.39	1,056.24

TOTAL SITE ENERGY 3089.69 MBTU 169.8 KBTU/SQFT-YR GROSS-AREA 169.7 KBTU/SQFT-YR NET-AREA  
 TOTAL SOURCE ENERGY 7162.67 MBTU 393.6 KBTU/SQFT-YR GROSS-AREA 393.5 KBTU/SQFT-YR NET-AREA

PERCENT OF HOURS ANY SYSTEM ZONE OUTSIDE OF THROTTLING RANGE = 44.3  
 PERCENT OF HOURS ANY PLANT LOAD NOT SATISFIED = 0.0

NOTE ELECTRICITY AND/OR FUEL USED TO GENERATE ELECTRICITY IS APPORTIONED BASED  
 ON THE YEARLY DEMAND. ALL OTHER ENERGY TYPES ARE APPORTIONED HOURLY.

EMC ENGINEERS INC. EZDOE - ELITE SOFTWARE DEVELOPMENT INC DOE-2.1D 3/18/1995 10:30:25 PDL RUN 1  
DENVER, CO 80227 BUILDING 10207 EXCHANGE/CLUB MODEL WITH SETBACK.ECONOMIZER, & DDC  
REPORT- PS-B MONTHLY PEAK AND TOTAL ENERGY USE WEATHER FILE- MASSENA, NY

MO	UTILITY-	ELECTRICITY	NATURAL-GAS
	TOTAL (MBTU)	151.423	231.986
JAN	PEAK (KBTU)	353.653	1016.000
	DY/HR	27/22	6/11
	TOTAL (MBTU)	136.600	177.002
FEB	PEAK (KBTU)	353.312	764.637
	DY/HR	18/22	5/11
	TOTAL (MBTU)	151.116	167.149
MAR	PEAK (KBTU)	353.312	734.046
	DY/HR	27/22	9/11
	TOTAL (MBTU)	144.836	89.295
APR	PEAK (KBTU)	349.179	492.028
	DY/HR	2/22	3/11
	TOTAL (MBTU)	169.172	33.561
MAY	PEAK (KBTU)	495.935	413.162
	DY/HR	31/22	3/11
	TOTAL (MBTU)	197.250	8.187
JUN	PEAK (KBTU)	533.844	11.371
	DY/HR	28/19	30/ 1
	TOTAL (MBTU)	221.341	8.460
JUL	PEAK (KBTU)	559.434	11.371
	DY/HR	17/19	31/ 1
	TOTAL (MBTU)	208.788	8.460
AUG	PEAK (KBTU)	548.532	11.371
	DY/HR	9/22	31/ 1
	TOTAL (MBTU)	192.387	8.187
SEP	PEAK (KBTU)	560.532	11.371
	DY/HR	1/22	30/ 1
	TOTAL (MBTU)	163.890	37.274
OCT	PEAK (KBTU)	449.157	417.110
	DY/HR	8/22	26/11
	TOTAL (MBTU)	145.543	106.135
NOV	PEAK (KBTU)	352.234	546.456
	DY/HR	28/22	28/11
	TOTAL (MBTU)	151.086	180.563
DEC	PEAK (KBTU)	353.312	763.609
	DY/HR	30/22	3/11
	ONE YEAR	2033.433	1056.261
	USE/PEAK	560.532	1016.000



**COMPUTER SIMULATIONS**  
**BUILDING 10207**

**RUN 4 - FORCED VENTILATION**

INPUT LOADS ..

\$-----\$  
\$ E Z - D O E L O A D S I N P U T \$  
\$-----\$

\$ GENERAL PROJECT DATA

TITLE LINE-1 \* EMC ENGINEERS INC. \*  
LINE-2 \*EZDOE - ELITE SOFTWARE DEVELOPMENT INC\*  
LINE-3 \* DENVER, CO 80227 \*  
LINE-4 \*BUILDING 10207 EXCHANGE/CLUB \*  
LINE-5 \*SETBACK, ECONOMIZER, DDC, & FORCED VENT.\* ..

ABORT ERRORS ..  
DIAGNOSTIC WARNINGS ..  
LOADS-REPORT SUMMARY=(LS-A,LS-B,LS-C,LS-D,LS-E,LS-F,LS-G,  
LS-H,LS-I,LS-J,LS-K,LS-L) ..  
BUILDING-LOCATION LATITUDE = 44.0  
ALTITUDE = 655.  
AZIMUTH = -40.  
TIME-ZONE = 5  
GROSS-AREA = 18199  
HOLIDAY = NO  
SHIELDING-COEF = 0.19  
HEAT-PEAK-PERIOD = ( 6, 7)  
COOL-PEAK-PERIOD = ( 15, 16)  
X-REF = 0.0 ..  
Y-REF = 0.0 ..  
RUN-PERIOD JAN 1 1994 THRU DEC 31 1994 ..

\$ SCHEDULES

PEOPLE =DAY-SCHEDULE (1,2) (0.8)  
(3,11) (0.)  
(12,13) (0.2)  
(14,15) (0.3)  
(16,17) (0.5)  
(18,19) (0.7)  
(20,21) (0.8)  
(22,24) (0.9) ..  
FULL\_ON =DAY-SCHEDULE (1,24) (1.) ..  
FULL\_OFFD =DAY-SCHEDULE (1,24) (0.) ..  
LIGHT\_ON\_D =DAY-SCHEDULE (1,2) (0.8)  
(3) (0.5)  
(4,8) (0.)  
(9,12) (0.1,0.2,0.4,0.5)  
(13,17) (0.6)  
(18,21) (0.7)  
(22,24) (0.8) ..  
INT\_LDS\_D =DAY-SCHEDULE (1,2) (0.3)  
(3) (0.1)  
(4,10) (0.)  
(11,14) (0.4,0.6,0.4,0.5)  
(15,17) (0.6)  
(18) (0.7)  
(19,20) (0.8)  
(21,22) (0.9)  
(23,24) (0.8,0.7) ..

PEOPLE\_W =WEEK-SCHEDULE (ALL) PEOPLE ..  
LIGHTS\_WK =WEEK-SCHEDULE (ALL) LIGHT\_ON\_D ..  
APPLI\_WK =WEEK-SCHEDULE (ALL) INT\_LDS\_D ..  
CND\_WK =WEEK-SCHEDULE (ALL) FULL\_ON ..  
FULL\_OFFW =WEEK-SCHEDULE (ALL) FULL\_OFFD ..  
FULL\_ON\_W =WEEK-SCHEDULE (ALL) FULL\_ON ..

\$ PEOPLE SCHEDULE  
OCCUPANCY =SCHEDULE THRU DEC 31 PEOPLE\_W ..

\$ LOADS SCHED  
INTLOADS =SCHEDULE THRU DEC 31 APPLI\_WK ..

\$ LIGHTING SCHEDULE  
LIGHTS\_ON =SCHEDULE THRU DEC 31 LIGHTS\_WK ..

\$ APPLIANCE SCHEDULE  
APPLI\_ON =SCHEDULE THRU DEC 31 APPLI\_WK ..

\$ COND VENTIL SCHED  
CND\_SCHED =SCHEDULE THRU FEB 28 FULL\_OFFW  
THRU NOV 30 CND\_WK  
THRU DEC 31 FULL\_OFFW ..

FULL\_ON\_SD =SCHEDULE THRU DEC 31 FULL\_ON\_W ..

\$ CONSTRUCTION TYPES

```

$ ROOF CONSTRUCTION
ROOFCON =CONSTRUCTION U-VALUE = 0.050 ..

$ EXTERIOR WALL CONSTRUCTION
EXWALL =CONSTRUCTION U-VALUE = 0.200 ..

$ INTERIOR WALL CONSTRUCTION
INWALL =CONSTRUCTION U-VALUE = 0.500 ..

$ DOOR CONSTRUCTION
DOORCON =CONSTRUCTION U-VALUE = 1.000 ..

$ FLOOR SLAB
FLOOR =CONSTRUCTION U-VALUE = 0.100 ..
IMAGWALL =CONSTRUCTION U-VALUE = 20.000 ..

GTYPE_1 =GLASS-TYPE SHADING-COEF = 0.800
PANES = 1
GLASS-CONDUCTANCE = 1.130 ..
GTYPE_2 =GLASS-TYPE SHADING-COEF = 0.300
PANES = 1
GLASS-CONDUCTANCE = 0.790 ..
GTYPE_3 =GLASS-TYPE SHADING-COEF = 0.400
PANES = 1
GLASS-CONDUCTANCE = 0.360 ..

$ SPACE DESCRIPTION

RETAILSALS =SPACE AREA = 3910.0 VOLUME = 35190.0
TEMPERATURE = (65.) ZONE-TYPE = CONDITIONED
PEOPLE-SCHEDULE = OCCUPANCY NUMBER-OF-PEOPLE = 15.0
PEOPLE-HEAT-GAIN = 550.0
LIGHTING-TYPE = REC-FLUOR-RV LIGHTING-KW = 4.4
LIGHTING-SCHEDULE = LIGHTS_ON
EQUIP-SCHEDULE = INTLOADS EQUIPMENT-KW = 2.0
INF-METHOD = AIR-CHANGE AIR-CHANGES/HR = 0.15
INF-SCHEDULE = FULL_ON_SD ..

E-W HEIGHT = 9.0 WIDTH = 71.0 CONS = EXWALL
AZIMUTH = 0 ..

DOOR HEIGHT = 7.0 WIDTH = 3.0 CONS = DOORCON ..

ROOF HEIGHT = 52.0 WIDTH = 71.0 CONS = ROOFCON
TILT = 0 ..

U-W HEIGHT = 52.0 WIDTH = 71.0 CONS = FLOOR ..

I-W HEIGHT = 9.0 WIDTH = 48.0 CONS = INWALL
NEXT-TO = KITCHEN ..

LOBBY =SPACE AREA = 5440.0 VOLUME = 48960.0
TEMPERATURE = (65.) ZONE-TYPE = CONDITIONED
PEOPLE-SCHEDULE = OCCUPANCY NUMBER-OF-PEOPLE = 100.0
PEOPLE-HEAT-GAIN = 1000.0 LIGHTING-TYPE = INCAND
LIGHTING-KW = 10.8 LIGHTING-SCHEDULE = LIGHTS_ON
EQUIP-SCHEDULE = INTLOADS EQUIPMENT-KW = 2.0
INF-METHOD = AIR-CHANGE AIR-CHANGES/HR = 0.25
INF-SCHEDULE = FULL_ON_SD ..

E-W HEIGHT = 9.0 WIDTH = 147.0 CONS = EXWALL
AZIMUTH = 180 ..

E-W HEIGHT = 9.0 WIDTH = 32.0 CONS = EXWALL
AZIMUTH = 270 ..

E-W HEIGHT = 9.0 WIDTH = 38.0 CONS = EXWALL
AZIMUTH = 90 ..

U-W HEIGHT = 147.0 WIDTH = 38.0 CONS = FLOOR ..

ROOF HEIGHT = 136.0 WIDTH = 40.0 CONS = ROOFCON
TILT = 0 ..

FOODAREA =SPACE AREA = 3072.0 VOLUME = 27648.0
TEMPERATURE = (65.) ZONE-TYPE = CONDITIONED
PEOPLE-SCHEDULE = OCCUPANCY NUMBER-OF-PEOPLE = 150.0
PEOPLE-HEAT-GAIN = 1000.0 LIGHTING-TYPE = INCAND
LIGHTING-KW = 8.6 LIGHTING-SCHEDULE = LIGHTS_ON
EQUIP-SCHEDULE = INTLOADS EQUIPMENT-KW = 47.5
SOURCE-SCHEDULE = FULL_ON_SD SOURCE-TYPE = HOT-WATER
SOURCE-BTU/HR = 6849.0 SOURCE-SENSIBLE = 0.3
SOURCE-LATENT = 0.4 INF-METHOD = AIR-CHANGE
AIR-CHANGES/HR = 0.1 INF-SCHEDULE = FULL_ON_SD ..

ROOF HEIGHT = 48.0 WIDTH = 64.0 CONS = ROOFCON
TILT = 0 ..

U-W HEIGHT = 48.0 WIDTH = 64.0 CONS = FLOOR ..

I-W HEIGHT = 9.0 WIDTH = 48.0 CONS = INWALL
NEXT-TO = KITCHEN ..

EMCLUB =SPACE AREA = 2000.0 VOLUME = 18000.0
TEMPERATURE = (65.) ZONE-TYPE = CONDITIONED
PEOPLE-SCHEDULE = OCCUPANCY NUMBER-OF-PEOPLE = 300.0
PEOPLE-HEAT-GAIN = 1360.0 PEOPLE-HG-LAT = 875.0
PEOPLE-HG-SENS = 405.0 LIGHTING-TYPE = INCAND
LIGHTING-KW = 6.7 LIGHTING-SCHEDULE = LIGHTS_ON
EQUIP-SCHEDULE = INTLOADS EQUIPMENT-KW = 4.0
INF-METHOD = AIR-CHANGE AIR-CHANGES/HR = 0.15
INF-SCHEDULE = FULL_ON_SD ..

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E-W      HEIGHT = 9.0  WIDTH = 70.0  CONS = EXWALL
        AZIMUTH = 180  ..

ROOF      HEIGHT = 70.0  WIDTH = 40.0  CONS = ROOFCON
        TILT = 0  ..

U-W      HEIGHT = 70.0  WIDTH = 40.0  CONS = FLOOR ..

I-W      HEIGHT = 9.0  WIDTH = 40.0  CONS = INWALL
        NEXT-TO = KITCHEN  ..

KITCHEN  =SPACE  AREA = 2880.0  VOLUME = 25920.0
        TEMPERATURE = (55.)  ZONE-TYPE = CONDITIONED
        PEOPLE-SCHEDULE = OCCUPANCY  NUMBER-OF-PEOPLE = 20.0
        PEOPLE-HEAT-GAIN = 1000.0  LIGHTING-TYPE = INCAND
        LIGHTING-KW = 3.5  LIGHTING-SCHEDULE = LIGHTS_ON
        EQUIP-SCHEDULE = FULL_ON_SD  EQUIPMENT-KW = 7.0
        INF-METHOD = AIR-CHANGE  AIR-CHANGES/HR = 0.2
        INF-SCHEDULE = FULL_ON_SD  ..

E-W      HEIGHT = 9.0  WIDTH = 20.0  CONS = EXWALL
        AZIMUTH = 180  ..

E-W      HEIGHT = 9.0  WIDTH = 144.0  CONS = EXWALL
        AZIMUTH = 90  ..

E-W      HEIGHT = 9.0  WIDTH = 20.0  CONS = EXWALL
        AZIMUTH = 0  ..

ROOF      HEIGHT = 20.0  WIDTH = 144.0  CONS = ROOFCON
        TILT = 0  ..

U-W      HEIGHT = 20.0  WIDTH = 144.0  CONS = FLOOR ..

I-W      HEIGHT = 9.0  WIDTH = 48.0  CONS = INWALL
        AZIMUTH = 180  NEXT-TO = RETAILSALS  ..

I-W      HEIGHT = 9.0  WIDTH = 48.0  CONS = INWALL
        AZIMUTH = 180  NEXT-TO = FOODAREA  ..

I-W      HEIGHT = 9.0  WIDTH = 40.0  CONS = INWALL
        AZIMUTH = 180  NEXT-TO = EMCLUB  ..

EMCLUB_B  =SPACE  AREA = 900.0  VOLUME = 8100.0
        TEMPERATURE = (65.)  ZONE-TYPE = CONDITIONED
        PEOPLE-SCHEDULE = OCCUPANCY
        LIGHTING-SCHEDULE = OCCUPANCY
        EQUIP-SCHEDULE = OCCUPANCY  FLOOR-WEIGHT = 0.1
        INF-METHOD = AIR-CHANGE  ..

I-W      HEIGHT = 9.0  WIDTH = 500.0  CONS = IMAGWALL
        AZIMUTH = 90  NEXT-TO = EMCLUB  ..

```

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END  ..
COMPUTE LOADS  ..
INPUT SYSTEMS  ..

```

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$-----$
$ E Z - D O E   S Y S T E M S   I N P U T $
$-----$

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#### \$ GENERAL PROJECT DATA

```

TITLE  LINE-1 *   EMC       ENGINEERS       INC.      *
        LINE-2 *EZDOE - ELITE SOFTWARE DEVELOPMENT INC*
        LINE-3 *   DENVER,      CO      80227      *

        LINE-4 *BUILDING 10207  EXCHANGE/CLUB      *
        LINE-5 *SETBACK, ECONOMIZER, DDC, & FORCED VENT.* ..

ABORT   ERRORS ..
DIAGNOSTIC  WARNINGS ..
SYSTEMS-REPORT  SUMMARY=(SS-A,SS-B,SS-C,SS-D,SS-E,SS-F,SS-G,
                        SS-H,SS-I,SS-J,SS-K,SS-L,SS-M,SS-N,
                        SS-O) ..

```

#### \$ SCHEDULES

```

FULL_ON_D  =DAY-SCHEDULE  (1,24) (1.) ..
HEAT_D     =DAY-SCHEDULE  (1,24) (68.) ..
COOL_D     =DAY-SCHEDULE  (1,24) (75.) ..
FULL_OFF_D =DAY-SCHEDULE  (1,24) (0.) ..
AHU1_SCH   =DAY-SCHEDULE  (1,5) (0.)
                (6,20) (1.)
                (21,24) (0.) ..
HT_AHU1_D  =DAY-SCHEDULE  (1,5) (55.)
                (6,20) (68.)
                (21,24) (55.) ..
AHU_SCH_D  =DAY-SCHEDULE  (1,2) (1.)
                (3,10) (0.)
                (11,24) (1.) ..
HT_60_D    =DAY-SCHEDULE  (1,24) (55.) ..
AHU_2_ON_D =DAY-SCHEDULE  (1,2) (1.)
                (3,5) (0.)
                (6,15) (1.)
                (16) (0.)
                (17,24) (1.) ..
AHU_2_HT_D =DAY-SCHEDULE  (1,2) (68.)
                (3,5) (55.)
                (6,24) (68.) ..
DX_ON_D    =DAY-SCHEDULE  (1,3) (1.)
                (4,18) (0.)
                (19,24) (1.) ..
HT_W_SB_D  =DAY-SCHEDULE  (1,2) (68.)

```

```

(3,10) (0.)
(11,24) (68.) ..
CL_W_SB_D =DAY-SCHEDULE (1,2) (75.)
(3,10) (85.)
FAN_W_SB_D =DAY-SCHEDULE (11,24) (75.) ..
(1,2) (1.)
(3,10) (0.)
MOA_.35_D =DAY-SCHEDULE (11,24) (1.) ..
(1,2) (0.35)
(3,11) (0.)
(12,24) (0.35) ..

FULL_ON_W =WEEK-SCHEDULE (ALL) FULL_ON_D ..
HEAT_W =WEEK-SCHEDULE (ALL) HEAT_D ..
COOL_W =WEEK-SCHEDULE (ALL) COOL_D ..
FULL_OFF_W =WEEK-SCHEDULE (ALL) FULL_OFF_D ..
AHU_SCHD_W =WEEK-SCHEDULE (ALL) AHU_SCH_D ..
AHU1_W =WEEK-SCHEDULE (ALL) AHU1_SCH ..
HT_AHU1_W =WEEK-SCHEDULE (ALL) HT_AHU1_D ..
HEAT_60_W =WEEK-SCHEDULE (ALL) HT_60_D ..
AHU_2_ON_W =WEEK-SCHEDULE (ALL) AHU_2_ON_D ..
AHU_2_HT_W =WEEK-SCHEDULE (ALL) AHU_2_HT_D ..
DX_ON_W =WEEK-SCHEDULE (ALL) DX_ON_D ..
HT_W_SB_W =WEEK-SCHEDULE (ALL) HT_W_SB_D ..
CL_W_SB_W =WEEK-SCHEDULE (ALL) CL_W_SB_D ..
FAN_W_SB_W =WEEK-SCHEDULE (ALL) FAN_W_SB_D ..
MOA_.35_W =WEEK-SCHEDULE (ALL) MOA_.35_D ..

```

```

FULL_ON =SCHEDULE THRU DEC 31 FULL_ON_W ..

```

```

$ HEATING SCHEDULE
HEAT_ON =SCHEDULE THRU DEC 31 HEAT_W ..

```

```

$ COOLING SCHEDULE
COOL_ON =SCHEDULE THRU DEC 31 COOL_W ..
FULL_OFF =SCHEDULE THRU DEC 31 FULL_OFF_W ..

```

```

HT_AHU1_SD =SCHEDULE THRU DEC 31 HT_AHU1_W ..

```

```

$ MATCHES OCCUPANCY
AHU_SCHDL =SCHEDULE THRU DEC 31 AHU_SCHD_W ..
AHU1_SCHD =SCHEDULE THRU DEC 31 AHU1_W ..
HEAT_60 =SCHEDULE THRU DEC 31 HEAT_60_W ..
AHU_2_ON =SCHEDULE THRU DEC 31 AHU_2_ON_W ..
AHU_2_HT =SCHEDULE THRU DEC 31 AHU_2_HT_W ..

```

```

$ 2X10TON DX UNIT SCHD
DX_ON_SCHD =SCHEDULE THRU MAY 15 DX_ON_W
THRU NOV 30 FULL_ON_W
THRU DEC 31 DX_ON_W ..

```

```

HT_W_SB =SCHEDULE THRU DEC 31 HT_W_SB_W ..
CL_W_SB =SCHEDULE THRU DEC 31 CL_W_SB_W ..
FAN_W_SB =SCHEDULE THRU DEC 31 FAN_W_SB_W ..

```

```

$ HEATING AVAILABLE
HEAT_AVAIL =SCHEDULE THRU MAY 15 FULL_ON_W
THRU OCT 15 FULL_OFF_W
THRU DEC 31 FULL_ON_W ..

```

```

$ COOLING AVAILABLE
COOL_AVAIL =SCHEDULE THRU MAY 15 FULL_OFF_W
THRU OCT 15 FULL_ON_W
THRU DEC 31 FULL_OFF_W ..

```

```

$ FAN SCHEDULE W SETBACK
DXUNIT_FAN =SCHEDULE THRU MAY 15 FULL_OFF_W
THRU OCT 15 FAN_W_SB_W
THRU DEC 31 FULL_OFF_W ..

```

```

$ FORCED VENTILATION
MOA_.35_FV =SCHEDULE THRU DEC 31 MOA_.35_W ..

```

# \$ ZONE DESCRIPTION

```

RETAILSALS =ZONE DESIGN-HEAT-T = 68.0 DESIGN-COOL-T = 75.0
HEAT-TEMP-SCH = HT_W_SB COOL-TEMP-SCH = CL_W_SB
ZONE-TYPE = CONDITIONED
THERMOSTAT-TYPE = PROPORTIONAL
BASEBOARD-CTRL = THERMOSTATIC ASSIGNED-CFM = 2500.
OUTSIDE-AIR-CFM = 875. SIZING-OPTION = FROM-LOADS
RATED-CFM = 2500.0 MIN-CFM-RATIO = 1.0
HEATING-CAPACITY = -152200.0 ..

```

LOBBY =ZONE DESIGN-HEAT-T = 68.0 DESIGN-COOL-T = 75.0  
 HEAT-TEMP-SCH = HT W\_SB COOL-TEMP-SCH = CL\_W\_SB  
 ZONE-TYPE = CONDITIONED  
 THERMOSTAT-TYPE = PROPORTIONAL THROTTLING-RANGE = 1.0  
 BASEBOARD-CTRL = THERMOSTATIC ASSIGNED-CFM = 4500.  
 OUTSIDE-AIR-CFM = 1575. SIZING-OPTION = FROM-LOADS  
 RATED-CFM = 4500.0 MIN-CFM-RATIO = 0.4  
 HEATING-CAPACITY = -278000.0 ..

FOODAREA =ZONE DESIGN-HEAT-T = 68.0 DESIGN-COOL-T = 75.0  
 HEAT-TEMP-SCH = HT W\_SB COOL-TEMP-SCH = CL\_W\_SB  
 ZONE-TYPE = CONDITIONED  
 THERMOSTAT-TYPE = PROPORTIONAL THROTTLING-RANGE = 1.0  
 BASEBOARD-CTRL = THERMOSTATIC ASSIGNED-CFM = 4900.  
 OUTSIDE-AIR-CFM = 1715. SIZING-OPTION = FROM-LOADS  
 RATED-CFM = 4900.0 MIN-CFM-RATIO = 1.0  
 HEATING-CAPACITY = -201000.0 ..

EMCLUB =ZONE DESIGN-HEAT-T = 68.0 DESIGN-COOL-T = 75.0  
 HEAT-TEMP-SCH = HT W\_SB COOL-TEMP-SCH = CL\_W\_SB  
 ZONE-TYPE = CONDITIONED  
 THERMOSTAT-TYPE = PROPORTIONAL THROTTLING-RANGE = 1.0  
 BASEBOARD-CTRL = THERMOSTATIC ASSIGNED-CFM = 4000.  
 OUTSIDE-AIR-CFM = 1400. SIZING-OPTION = FROM-LOADS  
 RATED-CFM = 4000.0 MIN-CFM-RATIO = 1.0  
 HEATING-CAPACITY = -138000.0 ..

KITCHEN =ZONE DESIGN-HEAT-T = 60.0 DESIGN-COOL-T = 90.0  
 HEAT-TEMP-SCH = HEAT 60 COOL-TEMP-SCH = CL\_W\_SB  
 ZONE-TYPE = CONDITIONED  
 THERMOSTAT-TYPE = PROPORTIONAL THROTTLING-RANGE = 1.0  
 BASEBOARD-CTRL = THERMOSTATIC  
 BASEBOARD-RATING = -72433. ASSIGNED-CFM = 1200.  
 OUTSIDE-AIR-CFM = 420. SIZING-OPTION = FROM-LOADS  
 RATED-CFM = 1200.0 MIN-CFM-RATIO = 1.0 ..

EMCLUB\_B =ZONE DESIGN-HEAT-T = 68.0 DESIGN-COOL-T = 75.0  
 ZONE-TYPE = CONDITIONED  
 THERMOSTAT-TYPE = PROPORTIONAL THROTTLING-RANGE = 1.0  
 BASEBOARD-CTRL = THERMOSTATIC ASSIGNED-CFM = 800.  
 OUTSIDE-AIR-CFM = 800. SIZING-OPTION = FROM-LOADS  
 RATED-CFM = 800.0 MIN-CFM-RATIO = 1.0  
 MIN-CFM-SCH = FULL\_ON EXHAUST-CFM = 800.0 ..

\$ SYSTEM DESCRIPTION

AHU\_1 =SYSTEM SYSTEM-TYPE = SZRH  
 MAX-SUPPLY-T = 135.0 MIN-SUPPLY-T = 57.0  
 HEATING-SCHEDULE = HEAT\_AVAIL  
 COOLING-SCHEDULE = COOL\_AVAIL HEAT-SET-T = 135.0  
 PREHEAT-T = 41.0 MIN-HUMIDITY = 30.0  
 ECONO-LIMIT-T = 65.0 ECONO-LOW-LIMIT = 55.0  
 SUPPLY-CFM = 2500. RETURN-CFM = 1625.  
 RATED-CFM = 2500. MIN-OUTSIDE-AIR = 0.35  
 MIN-AIR-SCH = MOA .35\_FV FAN-SCHEDULE = FAN\_W\_SB  
 SUPPLY-DELTA-T = 2.4 SUPPLY-KW = 0.0009  
 NIGHT-CYCLE-CTRL = CYCLE-ON-ANY NIGHT-VENT-DT = 0.0  
 MIN-CFM-RATIO = 1.0 REHEAT-DELTA-T = 50.  
 COOLING-CAPACITY = 100000. FURNACE-AUX = 0.  
 RETURN-AIR-PATH = DUCT  
 ZONE-NAMES = (RETAILSALS) ..

AHU\_3 =SYSTEM SYSTEM-TYPE = SZRH  
 MAX-SUPPLY-T = 135.0 MIN-SUPPLY-T = 57.0  
 HEATING-SCHEDULE = HEAT\_AVAIL  
 COOLING-SCHEDULE = COOL\_AVAIL HEAT-SET-T = 135.0  
 PREHEAT-T = 41.0 MIN-HUMIDITY = 30.0  
 ECONO-LIMIT-T = 65.0 ECONO-LOW-LIMIT = 55.0  
 SUPPLY-CFM = 6100. RETURN-CFM = 4700.  
 RATED-CFM = 6100. MIN-OUTSIDE-AIR = 0.35  
 MIN-AIR-SCH = MOA .35\_FV FAN-SCHEDULE = FAN\_W\_SB  
 SUPPLY-DELTA-T = 2.4 SUPPLY-KW = 0.00092  
 NIGHT-CYCLE-CTRL = CYCLE-ON-ANY NIGHT-VENT-DT = 0.0  
 MIN-CFM-RATIO = 1.0 REHEAT-DELTA-T = 50.  
 COOLING-CAPACITY = 260500. FURNACE-AUX = 0.  
 RETURN-AIR-PATH = DUCT  
 ZONE-NAMES = (FOODAREA, KITCHEN) ..

AHU\_4 =SYSTEM SYSTEM-TYPE = SZRH  
 MAX-SUPPLY-T = 135.0 MIN-SUPPLY-T = 57.0  
 HEATING-SCHEDULE = HEAT\_AVAIL  
 COOLING-SCHEDULE = COOL\_AVAIL HEAT-SET-T = 135.0  
 PREHEAT-T = 41.0 MIN-HUMIDITY = 30.0  
 ECONO-LIMIT-T = 65.0 ECONO-LOW-LIMIT = 55.0  
 SUPPLY-CFM = 4000. RETURN-CFM = 2600.  
 RATED-CFM = 4000. MIN-OUTSIDE-AIR = 0.35  
 MIN-AIR-SCH = MOA .35\_FV FAN-SCHEDULE = FAN\_W\_SB  
 SUPPLY-DELTA-T = 2.4 SUPPLY-KW = 0.00078  
 NIGHT-CYCLE-CTRL = CYCLE-ON-ANY NIGHT-VENT-DT = 0.0  
 MIN-CFM-RATIO = 1.0 REHEAT-DELTA-T = 50.  
 COOLING-CAPACITY = 240000. FURNACE-AUX = 0.  
 RETURN-AIR-PATH = DUCT  
 ZONE-NAMES = (EMCLUB) ..

AHU\_2 =SYSTEM SYSTEM-TYPE = VAVS  
 MAX-SUPPLY-T = 135.0 MIN-SUPPLY-T = 57.0  
 HEATING-SCHEDULE = HEAT\_AVAIL  
 COOLING-SCHEDULE = COOL\_AVAIL PREHEAT-T = 41.0  
 MIN-HUMIDITY = 30.0 ECONO-LIMIT-T = 65.0  
 ECONO-LOW-LIMIT = 55.0 COOL-CONTROL = WARMEST  
 SUPPLY-CFM = 4500. RETURN-CFM = 2925.  
 RATED-CFM = 4500. MIN-OUTSIDE-AIR = 0.35  
 MIN-AIR-SCH = MOA .35\_FV FAN-SCHEDULE = FAN\_W\_SB  
 SUPPLY-DELTA-T = 3.4 SUPPLY-KW = 0.00109  
 NIGHT-CYCLE-CTRL = CYCLE-ON-ANY NIGHT-VENT-DT = 0.0  
 MIN-CFM-RATIO = 0.4 REHEAT-DELTA-T = 50.  
 COOLING-CAPACITY = 214300. FURNACE-AUX = 0.

```

        SIZING-OPTION = COINCIDENT
        ZONE-NAMES = (LOBBY) ..

DX_UNITS  =SYSTEM  SYSTEM-TYPE = PSZ
        MAX-SUPPLY-T = 65.0  MIN-SUPPLY-T = 45.0
        HEATING-SCHEDULE = FULL_OFF
        COOLING-SCHEDULE = COOL_Avail  SUPPLY-CFM = 800.
        RATED-CFM = 800.  MIN-OUTSIDE-AIR = 1.0
        MIN-AIR-SCH = FULL_ON  FAN-SCHEDULE = FAN_W_SE
        SUPPLY-DELTA-T = 1.8  SUPPLY-KW = 0.00059
        MAX-FAN-RATIO = 1.0  MIN-FAN-RATIO = 1.0
        NIGHT-CYCLE-CTRL = STAY-OFF  NIGHT-VENT-DT = 0.0
        MIN-CFM-RATIO = 1.0  COOLING-CAPACITY = 24000.
        COOL-SH-CAP = 18555.  COOL-FT-MIN = 0.
        FURNACE-AUX = 0.  CRANKCASE-MAX-T = 0.
        OUTSIDE-FAN-T = 45.
        ZONE-NAMES = (EMCLUB_B) ..

END ..
COMPUTE SYSTEMS ..

INPUT PLANT ..

$-----$
$ E Z - D O E  P L A N T S  I N P U T $
$-----$

        $ GENERAL PROJECT DATA

TITLE  LINE-1 *      EMC      ENGINEERS      INC.      *
        LINE-2 *EZDOE - ELITE SOFTWARE DEVELOPMENT INC*
        LINE-3 *      DENVER,      CO      80227      *

        LINE-4 *BUILDING 10207  EXCHANGE/CLUB      *
        LINE-5 *SETBACK, ECONOMIZER, DDC, & FORCED VENT.* ..

ABORT      ERRORS ..
DIAGNOSTIC  WARNINGS ..
PLANT-REPORT SUMMARY=(PS-A, PS-B, PS-C, PS-D, PS-G, PS-H, PS-I,
        BEPS)
..

        $ SCHEDULES

DAY_ON      =DAY-SCHEDULE  (1,7) (0.)
              (8,18) (1.)
              (19,24) (0.) ..

FULL_ON      =WEEK-SCHEDULE  (ALL) DAY_ON ..

$ heating plant schedule
heating      =SCHEDULE THRU DEC 31 FULL_ON ..

        $ EQUIPMENT DESCRIPTION

BOILER      =PLANT-EQUIPMENT  TYPE = HW-BOILER
              SIZE = 0.8 ..

CHILLER      =PLANT-EQUIPMENT  TYPE = OPEN-REC-CHLR
              SIZE = 0.9 ..

PLANT-PARAMETERS  BOILER-FUEL = NATURAL-GAS  BOILER-CONTROL = STANDBY
        MAKEUP-WTR-T = 50.  STM-BOILER-HIR = 0.76
        HW-BOILER-HIR = 1.27  OPEN-REC-COND-TYPE = AIR
        HERM-REC-COND-TYPE = AIR  MIN-COND-AIR-T = 35.
        CCIRC-HEAD = 80.0  HCIRC-HEAD = 40.0 ..

PART-LOAD-RATIO  TYPE = HW-BOILER
        MIN-RATIO      = 0.2500  MAX-RATIO      = 1.0000
        OPERATING-RATIO = 1.0000  ELEC-INPUT-RATIO = 0.0220 ..

ENERGY-RESOURCE  RESOURCE = ELECTRICITY ..
ENERGY-RESOURCE  RESOURCE = NATURAL-GAS ..

END ..
COMPUTE PLANT ..
STOP ..

```

ENERGY TYPE IN SITE MBTU-	ELECTRICITY	NATURAL-GAS
CATEGORY OF USE		
SPACE HEAT	39.64	872.45
SPACE COOL	280.99	0.00
HVAC AUX	351.95	0.00
DOM HOT WTR	5.09	98.62
AUX SOLAR	0.00	0.00
LIGHTS	487.09	0.00
VERT TRANS	0.00	0.00
MISC EQUIP	900.63	0.00
	-----	-----
TOTAL	2,065.39	971.07

TOTAL SITE ENERGY 3036.52 MBTU 166.9 KBTU/SQFT-YR GROSS-AREA 166.8 KBTU/SQFT-YR NET-AREA  
 TOTAL SOURCE ENERGY 7173.61 MBTU 394.2 KBTU/SQFT-YR GROSS-AREA 394.1 KBTU/SQFT-YR NET-AREA

PERCENT OF HOURS ANY SYSTEM ZONE OUTSIDE OF THROTTLING RANGE = 38.8  
 PERCENT OF HOURS ANY PLANT LOAD NOT SATISFIED = 0.0

NOTE ELECTRICITY AND/OR FUEL USED TO GENERATE ELECTRICITY IS APPORTIONED BASED  
 ON THE YEARLY DEMAND. ALL OTHER ENERGY TYPES ARE APPORTIONED HOURLY.



MO	UTILITY-	ELECTRICITY	NATURAL-GAS
	TOTAL (MBTU)	151.611	217.754
JAN	PEAK (KBTU)	353.287	868.460
	DY/HR	27/22	5/12
	TOTAL (MBTU)	137.705	165.074
FEB	PEAK (KBTU)	352.945	700.354
	DY/HR	18/22	5/12
	TOTAL (MBTU)	153.118	153.614
MAR	PEAK (KBTU)	352.945	643.023
	DY/HR	27/22	9/12
	TOTAL (MBTU)	146.266	78.740
APR	PEAK (KBTU)	348.526	412.806
	DY/HR	2/22	3/12
	TOTAL (MBTU)	172.990	30.682
MAY	PEAK (KBTU)	496.168	389.221
	DY/HR	31/22	5/12
	TOTAL (MBTU)	201.908	8.187
JUN	PEAK (KBTU)	533.931	11.371
	DY/HR	28/19	30/ 1
	TOTAL (MBTU)	224.502	8.460
JUL	PEAK (KBTU)	559.357	11.371
	DY/HR	17/19	31/ 1
	TOTAL (MBTU)	213.242	8.460
AUG	PEAK (KBTU)	548.514	11.371
	DY/HR	9/22	31/ 1
	TOTAL (MBTU)	197.393	8.187
SEP	PEAK (KBTU)	560.717	11.371
	DY/HR	1/22	30/ 1
	TOTAL (MBTU)	167.501	32.780
OCT	PEAK (KBTU)	449.426	360.490
	DY/HR	8/22	26/12
	TOTAL (MBTU)	146.923	93.068
NOV	PEAK (KBTU)	351.439	447.377
	DY/HR	28/22	28/12
	TOTAL (MBTU)	152.286	166.069
DEC	PEAK (KBTU)	352.945	694.319
	DY/HR	30/22	3/12
	ONE YEAR	2065.444	971.076
	USE/PEAK	560.717	868.460

**COMPUTER SIMULATIONS**

BUILDING 10506

**COMPUTER SIMULATIONS**  
BUILDING 10506

BASE RUN

LDL PROCESSOR INPUT DATA

3/18/1995 15:18:58 LDL RUN 1

```
* 3 *
* 4 *
* 5 *      $-----$
* 6 *      $EZ-DOE LOADS INPUT$
* 7 *      $-----$
* 8 *
* 9 *      $ GENERAL PROJECT DATA
* 10 *
* 11 * TITLE LINE-1 * EMC ENGINEERS INC. *
* 12 * LINE-2 *EZDOE - ELITE SOFTWARE DEVELOPMENT INC*
* 13 * LINE-3 * DENVER, CO 80227 *
* 14 *
* 15 * LINE-4 *BUILDING 10506, TROOP MEDICAL CLINIC *
* 16 * LINE-5 *BASE MODEL *..
* 17 *
* 18 * ABORT      ERRORS ..
* 19 * DIAGNOSTIC  WARNINGS ..
* 20 * LOADS-REPORT SUMMARY=(LS-C,LS-D) ..
* 21 * BUILDING-LOCATION X-REF = 0.0
* 22 *           Y-REF = 0.0 ..
* 23 * RUN-PERIOD   JAN 1 1994 THRU DEC 31 1994 ..
* 24 *
* 25 *
* 26 *           $ SCHEDULES
* 27 *
* 28 * FULL_ON_D =DAY-SCHEDULE (1,24) (1.) ..
* 29 *
* 30 * FULL_OFF_D =DAY-SCHEDULE (1,24) (0.) ..
* 31 *
* 32 * PEOPLE_D =DAY-SCHEDULE (1,5) (0.)
* 33 *           (6,7) (0.1,0.5)
* 34 *           (8,13) (1.)
* 35 *           (14,17) (0.8,0.5,0.4,0.8)
* 36 *           (18,19) (0.4,0.1)
* 37 *           (20,24) (0.) ..
* 38 *
* 39 * LIGHT_D =DAY-SCHEDULE (1,5) (0.05)
* 40 *           (6,8) (0.4,0.5,0.4)
* 41 *           (9,11) (0.3)
* 42 *           (12,13) (0.4)
* 43 *           (14,15) (0.3)
* 44 *           (16,18) (0.5,0.7,0.5)
* 45 *           (19,24) (0.05) ..
```

\* 46 \*  
 \* 47 \* LIGHT\_SAT =DAY-SCHEDULE (1,11) (0.05)  
 \* 48 \* (12) (0.4)  
 \* 49 \* (13,14) (0.9)  
 \* 50 \* (15) (0.55)  
 \* 51 \* (16,19) (0.4)  
 \* 52 \* (20,24) (0.05) ..  
 \* 53 \*  
 \* 54 \* EQUIP\_D =DAY-SCHEDULE (1,5) (0.)  
 \* 55 \* (6,17) (0.33)  
 \* 56 \* (18,24) (0.) ..  
 \* 57 \*  
 \* 58 \*  
 \* 59 \* PEOPLE\_W =WEEK-SCHEDULE (WD) PEOPLE\_D  
 \* 60 \* (WEH) FULL\_OFF\_D ..  
 \* 61 \*  
 \* 62 \* FULL\_ON\_W =WEEK-SCHEDULE (ALL) FULL\_ON\_D ..  
 \* 63 \*  
 \* 64 \* FULL\_OFF\_W =WEEK-SCHEDULE (ALL) FULL\_OFF\_D ..  
 \* 65 \*  
 \* 66 \* LIGHT\_ON\_W =WEEK-SCHEDULE (WD) FULL\_OFF\_D  
 \* 67 \* (SAT) LIGHT\_D  
 \* 68 \* (SUN) LIGHT\_D  
 \* 69 \* (HOL) FULL\_OFF\_D ..  
 \* 70 \*  
 \* 71 \* EQUIP\_W =WEEK-SCHEDULE (WD) FULL\_OFF\_D  
 \* 72 \* (SAT) EQUIP\_D  
 \* 73 \* (SUN) EQUIP\_D  
 \* 74 \* (HOL) FULL\_OFF\_D ..  
 \* 75 \*  
 \* 76 \*  
 \* 77 \* \$ FULL ON SCHEDULE  
 \* 78 \* FULL\_ON =SCHEDULE THRU DEC 31 FULL\_ON\_W ..  
 \* 79 \*  
 \* 80 \* \$ FULL OFF SCHEDULE  
 \* 81 \* FULL\_OFF =SCHEDULE THRU DEC 31 FULL\_OFF\_W ..  
 \* 82 \*  
 \* 83 \* \$ OCCUPANCY SCHEDULE  
 \* 84 \* PEOPLE\_SCD =SCHEDULE THRU DEC 31 PEOPLE\_W ..  
 \* 85 \*  
 \* 86 \* \$ LIGHTING SCHEDULE  
 \* 87 \* LIGHT\_SCHD =SCHEDULE THRU DEC 31 LIGHT\_ON\_W ..  
 \* 88 \*  
 \* 89 \* \$ VACUUM SYST & WASTE SYS  
 \* 90 \* EQUIP\_SCHD =SCHEDULE THRU DEC 31 EQUIP\_W ..  
 \* 91 \*  
 \* 92 \*  
 \* 93 \*  
 \* 94 \* \$ CONSTRUCTION TYPES  
 \* 95 \*

\* 96 \*  
 \* 97 \*  
 \* 98 \* FLOORCON = CONSTRUCTION U-VALUE = 0.100 ..  
 \* 99 \* ROOF\_CON = CONSTRUCTION U-VALUE = 0.050 ..  
 \* 100 \* WALL\_CON = CONSTRUCTION U-VALUE = 0.200 ..  
 \* 101 \* DOOR\_CON = CONSTRUCTION U-VALUE = 1.000 ..  
 \* 102 \*  
 \* 103 \* G\_TYPE1 = GLASS-TYPE GLASS-TYPE-CODE = 3  
 \* 104 \* PANES = 1  
 \* 105 \* GLASS-CONDUCTANCE = 0.900 ..  
 \* 106 \*  
 \* 107 \*  
 \* 108 \*  
 \* 109 \*  
 \* 110 \* \$ SPACE DESCRIPTION  
 \* 111 \*  
 \* 112 \* WHOLE\_BLDG = SPACE AREA = 16386.0 VOLUME = 147575.0  
 \* 113 \* AZIMUTH = 315 TEMPERATURE = (68.)  
 \* 114 \* ZONE-TYPE = CONDITIONED PEOPLE-SCHEDULE = PEOPLE\_SCD  
 \* 115 \* NUMBER-OF-PEOPLE = 100.0 PEOPLE-HEAT-GAIN = 450.0  
 \* 116 \* PEOPLE-HG-SENS = 1.0 LIGHTING-TYPE = REC-FLUOR-RV  
 \* 117 \* LIGHTING-KW = 25.4 LIGHTING-SCHEDULE = LIGHT\_SCHD  
 \* 118 \* EQUIP-SCHEDULE = EQUIP\_SCHD EQUIPMENT-KW = 10.0  
 \* 119 \* EQUIP-SENSIBLE = 0.0 SOURCE-SCHEDULE = FULL\_ON  
 \* 120 \* SOURCE-TYPE = HOT-WATER SOURCE-BTU/HR = 22831.0  
 \* 121 \* SOURCE-SENSIBLE = 0.0 INF-METHOD = AIR-CHANGE  
 \* 122 \* AIR-CHANGES/HR = 0.33 INF-SCHEDULE = FULL\_ON ..  
 \* 123 \*  
 \* 124 \* U-W HEIGHT = 101.1 WIDTH = 162.0 CONS = FLOORCON  
 \* 125 \* AZIMUTH = 315 ..  
 \* 126 \*  
 \* 127 \* ROOF HEIGHT = 101.1 WIDTH = 162.0 CONS = ROOF\_CON  
 \* 128 \* AZIMUTH = 315 TILT = 0 ..  
 \* 129 \*  
 \* 130 \* E-W HEIGHT = 9.0 WIDTH = 126.0 CONS = WALL\_CON  
 \* 131 \* AZIMUTH = 45 ..  
 \* 132 \*  
 \* 133 \* WINDOW HEIGHT = 4.0 WIDTH = 5.0 G-T = G\_TYPE1  
 \* 134 \* MULTIPLIER = 4.0 ..  
 \* 135 \*  
 \* 136 \* WINDOW HEIGHT = 4.0 WIDTH = 4.0 G-T = G\_TYPE1  
 \* 137 \* MULTIPLIER = 6.0 ..  
 \* 138 \*  
 \* 139 \* WINDOW HEIGHT = 7.5 WIDTH = 3.0 G-T = G\_TYPE1 ..  
 \* 140 \*  
 \* 141 \* E-W HEIGHT = 9.0 WIDTH = 162.0 CONS = WALL\_CON  
 \* 142 \* AZIMUTH = 135 ..  
 \* 143 \*  
 \* 144 \* WINDOW HEIGHT = 4.0 WIDTH = 11.0 G-T = G\_TYPE1  
 \* 145 \* MULTIPLIER = 4.0 ..

```

* 146 *
* 147 *      WINDOW HEIGHT = 4.0 WIDTH = 4.0 G-T = G_TYPE1
* 148 *      MULTIPLIER = 2.0 ..
* 149 *
* 150 *      WINDOW HEIGHT = 4.0 WIDTH = 3.0 G-T = G_TYPE1
* 151 *      MULTIPLIER = 2.0 ..
* 152 *
* 153 *      WINDOW HEIGHT = 11.0 WIDTH = 12.0 G-T = G_TYPE1 ..
* 154 *
* 155 *      WINDOW HEIGHT = 7.5 WIDTH = 7.5 G-T = G_TYPE1 ..
* 156 *
* 157 *      E-W  HEIGHT = 9.0 WIDTH = 126.0 CONS = WALL_CON
* 158 *      AZIMUTH = 225 ..
* 159 *
* 160 *      WINDOW HEIGHT = 4.0 WIDTH = 5.0 G-T = G_TYPE1
* 161 *      MULTIPLIER = 4.0 ..
* 162 *
* 163 *      WINDOW HEIGHT = 4.0 WIDTH = 4.0 G-T = G_TYPE1
* 164 *      MULTIPLIER = 8.0 ..
* 165 *
* 166 *      E-W  HEIGHT = 9.0 WIDTH = 162.0 CONS = WALL_CON
* 167 *      AZIMUTH = 315 ..
* 168 *
* 169 *      DOOR  HEIGHT = 7.5 WIDTH = 3.0 CONS = DOOR_CON
* 170 *      MULTIPLIER = 2.0 ..
* 171 *
* 172 *      WINDOW HEIGHT = 4.0 WIDTH = 4.0 G-T = G_TYPE1
* 173 *      MULTIPLIER = 4.0 ..
* 174 *
* 175 *      WINDOW HEIGHT = 5.3 WIDTH = 5.3 G-T = G_TYPE1 ..
* 176 *
* 177 *
* 178 * END ..
* 179 * COMPUTE LOADS ..
* 180 *
* 181 * INPUT SYSTEMS ..

```

# SDL PROCESSOR INPUT DATA

3/18/1995 15:18:58 SDL RUN 1

```

* 182 *
* 183 *
* 184 *      $-----$
* 185 *      $EZ-DOE SYSTEMS INPUT$
* 186 *      $-----$
* 187 *

```

\* 188 \*           \$ GENERAL PROJECT DATA  
 \* 189 \*  
 \* 190 \* TITLE LINE-1 \*   EMC   ENGINEERS   INC.   \*  
 \* 191 \*     LINE-2 \*EZDOE - ELITE SOFTWARE DEVELOPMENT INC\*  
 \* 192 \*     LINE-3 \*   DENVER,   CO   80227   \*  
 \* 193 \*  
 \* 194 \*     LINE-4 \*BUILDING 10506, TROOP MEDICAL CLINIC   \*  
 \* 195 \*     LINE-5 \*BASE MODEL                   \*..  
 \* 196 \* ABORT            ERRORS ..  
 \* 197 \* DIAGNOSTIC       WARNINGS ..  
 \* 198 \* SYSTEMS-REPORT   SUMMARY=(SS-A,SS-C,SS-F,SS-K,SS-O) ..  
 \* 199 \*  
 \* 200 \*           \$ SCHEDULES  
 \* 201 \*  
 \* 202 \* FULL\_ON\_D =DAY-SCHEDULE (1,24) (1.) ..  
 \* 203 \* FULL\_OFF\_D =DAY-SCHEDULE (1,24) (0.) ..  
 \* 204 \* HEAT\_70\_D =DAY-SCHEDULE (1,24) (70.) ..  
 \* 205 \* COOL\_72\_D =DAY-SCHEDULE (1,24) (72.) ..  
 \* 206 \* HEAT\_55\_D =DAY-SCHEDULE (1,24) (55.) ..  
 \* 207 \*  
 \* 208 \* FULL\_ON\_W =WEEK-SCHEDULE (ALL) FULL\_ON\_D ..  
 \* 209 \*  
 \* 210 \* FULL\_OFF\_W =WEEK-SCHEDULE (ALL) FULL\_OFF\_D ..  
 \* 211 \*  
 \* 212 \* HEAT\_70\_W =WEEK-SCHEDULE (ALL) HEAT\_70\_D ..  
 \* 213 \*  
 \* 214 \* COOL\_72\_W =WEEK-SCHEDULE (ALL) COOL\_72\_D ..  
 \* 215 \*  
 \* 216 \*  
 \* 217 \* \$ FULL\_ON SCHEDULE  
 \* 218 \* FULL\_ON   =SCHEDULE THRU DEC 31 FULL\_ON\_W ..  
 \* 219 \*  
 \* 220 \* \$ FULL OFF SCHEDULE  
 \* 221 \* FULL\_OFF   =SCHEDULE THRU DEC 31 FULL\_OFF\_W ..  
 \* 222 \*  
 \* 223 \* \$ HEATING SCHEDULE  
 \* 224 \* HEAT\_70   =SCHEDULE THRU DEC 31 HEAT\_70\_W ..  
 \* 225 \*  
 \* 226 \* \$ COOLING SCHEDULE 72 F  
 \* 227 \* COOL\_72\_Y =SCHEDULE THRU DEC 31 COOL\_72\_W ..  
 \* 228 \*  
 \* 229 \*  
 \* 230 \*  
 \* 231 \*           \$ ZONE DESCRIPTION  
 \* 232 \*  
 \* 233 \* WHOLE\_BLDG =ZONE   DESIGN-HEAT-T = 70.0 DESIGN-COOL-T = 72.0  
 \* 234 \*           HEAT-TEMP-SCH = HEAT\_70 COOL-TEMP-SCH = COOL\_72\_Y  
 \* 235 \*           ZONE-TYPE = CONDITIONED  
 \* 236 \*           THERMOSTAT-TYPE = PROPORTIONAL THROTTLING-RANGE = 1.0  
 \* 237 \*           BASEBOARD-CTRL = THERMOSTATIC



\* 238 \* BASEBOARD-RATING = -10000000. ASSIGNED-CFM = 11500.  
 \* 239 \* OUTSIDE-AIR-CFM = 2440. SIZING-OPTION = FROM-LOADS  
 \* 240 \* RATED-CFM = 11500.0 MIN-CFM-RATIO = 0.84  
 \* 241 \* EXHAUST-CFM = 2440.0 HEATING-CAPACITY = -449500.0  
 \* 242 \* COOLING-CAPACITY = 453900.0 ..  
 \* 243 \*  
 \* 244 \*  
 \* 245 \* \$ SYSTEM DESCRIPTION  
 \* 246 \*  
 \* 247 \* AHU\_1 =SYSTEM SYSTEM-TYPE = PMZS  
 \* 248 \* MAX-SUPPLY-T = 75.0 MIN-SUPPLY-T = 55.0  
 \* 249 \* MIN-HUMIDITY = 30.0 ECONO-LIMIT-T = 65.0  
 \* 250 \* ECONO-LOW-LIMIT = 55.0 COOL-CONTROL = WARMEST  
 \* 251 \* SUPPLY-CFM = 11500. RETURN-CFM = 6860.  
 \* 252 \* RATED-CFM = 11550. MAX-OA-FRACTION = 0.21  
 \* 253 \* FAN-CONTROL = INLET SUPPLY-DELTA-T = 2.1  
 \* 254 \* SUPPLY-KW = 0.00049  
 \* 255 \* MOTOR-PLACEMENT = OUTSIDE-AIRFLOW  
 \* 256 \* NIGHT-CYCLE-CTRL = STAY-OFF RETURN-STATIC = 1.25  
 \* 257 \* RETURN-EFF = 1.0 MIN-CFM-RATIO = 0.81  
 \* 258 \* COOLING-CAPACITY = 453900. COOLING-EIR = 0.33  
 \* 259 \* HEATING-CAPACITY = -449500. FURNACE-AUX = 0.  
 \* 260 \* CRANKCASE-MAX-T = 0. OUTSIDE-FAN-T = 45.  
 \* 261 \* HEAT-SOURCE = HOT-WATER  
 \* 262 \* BASEBOARD-SOURCE = HOT-WATER  
 \* 263 \* ZONE-NAMES = (WHOLE\_BLDG) ..  
 \* 264 \*  
 \* 265 \* END ..  
 \* 266 \* COMPUTE SYSTEMS ..  
 \* 267 \*  
 \* 268 \* INPUT PLANT ..

# PDL PROCESSOR INPUT DATA

3/18/1995 15:18:58 PDL RUN 1

\* 269 \*  
 \* 270 \*  
 \* 271 \* \$-----\$  
 \* 272 \* \$EZ-DOE PLANTS INPUT\$  
 \* 273 \* \$-----\$  
 \* 274 \*  
 \* 275 \* \$ GENERAL PROJECT DATA  
 \* 276 \*  
 \* 277 \* TITLE LINE-1 \* EMC ENGINEERS INC. \*  
 \* 278 \* LINE-2 \*EZDOE - ELITE SOFTWARE DEVELOPMENT INC\*  
 \* 279 \* LINE-3 \* DENVER, CO 80227 \*

```

*280 *
*281 *   LINE-4 *BUILDING 10506, TROOP MEDICAL CLINIC *
*282 *   LINE-5 *BASE MODEL * ..
*283 *
*284 * ABORT      ERRORS ..
*285 * DIAGNOSTIC  WARNINGS ..
*286 * PLANT-REPORT SUMMARY=(PS-A,PS-B,BEPS)
*287 * ..
*288 *
*289 *           $ SCHEDULES
*290 *
*291 * FULL_ON_D =DAY-SCHEDULE (1,24) (1.) ..
*292 *
*293 *
*294 * FULL_ON_W =WEEK-SCHEDULE (ALL) FULL_ON_D ..
*295 *
*296 *
*297 * $ FULL ON SCHEDULE
*298 * FULL_ON =SCHEDULE THRU DEC 31 FULL_ON_W ..
*299 *
*300 *
*301 *
*302 *           $ EQUIPMENT DESCRIPTION
*303 *
*304 * HX      =PLANT-EQUIPMENT TYPE = HTANK-STORAGE
*305 *           SIZE = 0.5 ..
*306 *
*307 * PLANT-PARAMETERS OPEN-REC-COND-TYPE = AIR OPEN-CENT-COND-PWR = 0.13
*308 *           OPEN-REC-COND-PWR = 0.19 HCIRC-HEAD = 22.0 ..
*309 *
*310 *
*311 * ENERGY-RESOURCE RESOURCE = ELECTRICITY ..
*312 * ENERGY-RESOURCE RESOURCE = STEAM SOURCE-SITE-EFF = 1.000 ..
*313 *
*314 * ENERGY-STORAGE HEAT-STORE-RATE = 0.46 HEAT-SUPPLY-RATE = 0.46
*315 *           HTANK-BASE-T = 195.0 HTANK-T-RANGE = 50.0
*316 *           HEAT-STORE-SCH = FULL_ON ..
*317 *
*318 * HEAT-RECOVERY
*319 *   SUPPLY-1 = (HTANK-STORAGE)
*320 *   DEMAND-1 = (SPACE-HEAT,PROCESS-HEAT) ..
*321 *
*322 *
*323 *
*324 * END ..
*325 * COMPUTE PLANT ..
*326 * STOP ..

```

ENERGY TYPE IN SITE MBTU-	STEAM	ELECTRICITY	RECOVERED
CATEGORY OF USE			
SPACE HEAT	1373.26	115.71	0.00
SPACE COOL	0.00	59.89	0.00
HVAC AUX	0.00	164.89	0.00
DOM HOT WTR	200.01	0.00	0.00
AUX SOLAR	0.00	0.00	0.00
LIGHTS	0.00	53.25	0.00
VERT TRANS	0.00	0.00	0.00
MISC EQUIP	0.00	14.19	0.00
	-----	-----	-----
TOTAL	1573.26	407.94	0.00

TOTAL SITE ENERGY 1981.23 MBTU 120.9 KBTU/SQFT-YR GROSS-AREA 120.9 KBTU/SQFT-YR NET-AREA  
 TOTAL SOURCE ENERGY 2798.34 MBTU 170.8 KBTU/SQFT-YR GROSS-AREA 170.8 KBTU/SQFT-YR NET-AREA

PERCENT OF HOURS ANY SYSTEM ZONE OUTSIDE OF THROTTLING RANGE = 0.0  
 PERCENT OF HOURS ANY PLANT LOAD NOT SATISFIED = 0.0

NOTE ELECTRICITY AND/OR FUEL USED TO GENERATE ELECTRICITY IS APPORTIONED BASED  
 ON THE YEARLY DEMAND. ALL OTHER ENERGY TYPES ARE APPORTIONED HOURLY.

MO	UTILITY- STEAM	ELECTRICITY
JAN	TOTAL(MBTU)	282.715
	PEAK(KBTU)	598.385
	DY/HR	6/ 6
		23/17
FEB	TOTAL(MBTU)	220.208
	PEAK(KBTU)	473.119
	DY/HR	5/ 5
		5/17
MAR	TOTAL(MBTU)	218.3
	PEAK(KBTU)	479.993
	DY/HR	9/ 6
		27/17
APR	TOTAL(MBTU)	134.513
	PEAK(KBTU)	359.451
	DY/HR	1/ 5
		3/17
MAY	TOTAL(MBTU)	84.591
	PEAK(KBTU)	291.531
	DY/HR	3/ 5
		1/17
JUN	TOTAL(MBTU)	36.617
	PEAK(KBTU)	188.976
	DY/HR	8/ 5
		26/17
JUL	TOTAL(MBTU)	26.458
	PEAK(KBTU)	169.041
	DY/HR	25/ 5
		17/17
AUG	TOTAL(MBTU)	32.121
	PEAK(KBTU)	160.774
	DY/HR	22/ 6
		6/17
SEP	TOTAL(MBTU)	53.134
	PEAK(KBTU)	225.794
	DY/HR	24/ 4
		4/17
OCT	TOTAL(MBTU)	97.736
	PEAK(KBTU)	283.036
	DY/HR	28/ 7
		8/17
NOV	TOTAL(MBTU)	159.302
	PEAK(KBTU)	364.9
	DY/HR	27/ 5
		26/17

DEC	TOTAL(MBTU)	227.585	44.864
	PEAK(KBTU)	460.835	149.959
	DY/HR	3/ 4	3/17
	ONE YEAR	1573.281	407.946
	USE/PEAK	598.385	190.015

**COMPUTER SIMULATIONS**  
BUILDING 10506

RUN 1 - SCHEDULE START/STOP AND NIGHT SETBACK

# LDL PROCESSOR INPUT DATA

3/27/1995 12: 2:22 LDL RUN 1

```

* 3 *
* 4 *
* 5 *
* 6 *
* 7 *
* 8 *
* 9 *
* 10 *
* 11 * TITLE LINE-1 * EMC ENGINEERS INC. *
* 12 * LINE-2 *EZDOE - ELITE SOFTWARE DEVELOPMENT INC*
* 13 * LINE-3 * DENVER, CO 80227 *
* 14 *
* 15 * LINE-4 *BUILDING 10506, TROOP MEDICAL CLINIC *
* 16 * LINE-5 *MODEL WITH SETBACK,55 F,85 F * ..
* 17 *
* 18 * ABORT ERRORS ..
* 19 * DIAGNOSTIC WARNINGS ..
* 20 * LOADS-REPORT SUMMARY=(LS-C,LS-D) ..
* 21 * BUILDING-LOCATION X-REF = 0.0
* 22 * Y-REF = 0.0
* 23 * RUN-PERIOD JAN 1 1994 THRU DEC 31 1994 ..
* 24 *
* 25 *
* 26 *
* 27 *
* 28 * FULL_ON_D =DAY-SCHEDULE (1,24) (1.) ..
* 29 *
* 30 * FULL_OFF_D =DAY-SCHEDULE (1,24) (0.) ..
* 31 *
* 32 * PEOPLE_D =DAY-SCHEDULE (1,5) (0.)
* 33 * (6,7) (0.1,0.5)
* 34 * (8,13) (1.)
* 35 * (14,17) (0.8,0.5,0.4,0.8)
* 36 * (18,19) (0.4,0.1)
* 37 * (20,24) (0.) ..
* 38 *
* 39 * LIGHT_D =DAY-SCHEDULE (1,5) (0.05)
* 40 * (6,8) (0.4,0.5,0.4)
* 41 * (9,11) (0.3)
* 42 * (12,13) (0.4)
* 43 * (14,15) (0.3)
* 44 * (16,18) (0.5,0.7,0.5)
* 45 * (19,24) (0.05) ..
* 46 *
* 47 * LIGHT_SAT =DAY-SCHEDULE (1,11) (0.05)
* 48 * (12) (0.4)
* 49 * (13,14) (0.9)
* 50 * (15) (0.55)
* 51 * (16,19) (0.4)
* 52 * (20,24) (0.05) ..
* 53 *
* 54 * EQUIP_D =DAY-SCHEDULE (1,5) (0.)
* 55 * (6,17) (0.33)
* 56 * (18,24) (0.) ..
* 57 *
* 58 *
* 59 * PEOPLE_W =WEEK-SCHEDULE (WD) PEOPLE_D
* 60 * (WEH) FULL_OFF_D ..
* 61 *
* 62 * FULL_ON_W =WEEK-SCHEDULE (ALL) FULL_ON_D ..
* 63 *
* 64 * FULL_OFF_W =WEEK-SCHEDULE (ALL) FULL_OFF_D ..
* 65 *
* 66 * LIGHT_ON_W =WEEK-SCHEDULE (WD) FULL_OFF_D
* 67 * (SAT) LIGHT_D
* 68 * (SUN) LIGHT_D
* 69 * (HOL) FULL_OFF_D ..
* 70 *
* 71 * EQUIP_W =WEEK-SCHEDULE (WD) FULL_OFF_D
* 72 * (SAT) EQUIP_D
* 73 * (SUN) EQUIP_D
* 74 * (HOL) FULL_OFF_D ..
* 75 *
* 76 *
* 77 * $ FULL ON SCHEDULE
* 78 * FULL_ON =SCHEDULE THRU DEC 31 FULL_ON_W ..
* 79 *
* 80 * $ FULL OFF SCHEDULE
* 81 * FULL_OFF =SCHEDULE THRU DEC 31 FULL_OFF_W ..
* 82 *
* 83 * $ OCCUPANCY SCHEDULE
* 84 * PEOPLE_SCD =SCHEDULE THRU DEC 31 PEOPLE_W ..
* 85 *
* 86 * $ LIGHTING SCHEDULE
* 87 * LIGHT_SCHD =SCHEDULE THRU DEC 31 LIGHT_ON_W ..
* 88 *
* 89 * $ VACUUM SYST & WASTE SYS
* 90 * EQUIP_SCHD =SCHEDULE THRU DEC 31 EQUIP_W ..
* 91 *
* 92 *
* 93 *
* 94 *
* 95 *
* 96 *
* 97 *
* 98 * FLOORCON =CONSTRUCTION U-VALUE = 0.100 ..
* 99 * ROOF_CON =CONSTRUCTION U-VALUE = 0.050 ..
* 100 * WALL_CON =CONSTRUCTION U-VALUE = 0.200 ..
* 101 * DOOR_CON =CONSTRUCTION U-VALUE = 1.000 ..
* 102 *

```

```

* 103 * G_TYPE1 =GLASS-TYPE      GLASS-TYPE-CODE = 3
* 104 *                             PANES = 1
* 105 *                             GLASS-CONDUCTANCE = 0.900 ..
* 106 *
* 107 *
* 108 *
* 109 *
* 110 *                               $ SPACE DESCRIPTION
* 111 *
* 112 * WHOLE_BLDG =SPACE      AREA = 16386.0  VOLUME = 147575.0
* 113 *                             AZIMUTH = 315  TEMPERATURE = (68.)
* 114 *                             ZONE-TYPE = CONDITIONED  PEOPLE-SCHEDULE = PEOPLE_SCD
* 115 *                             NUMBER-OF-PEOPLE = 100.0  PEOPLE-HEAT-GAIN = 450.0
* 116 *                             PEOPLE-HG-SENS = 1.0  LIGHTING-TYPE = REC-FLUOR-RV
* 117 *                             LIGHTING-KW = 25.4  LIGHTING-SCHEDULE = LIGHT_SCHD
* 118 *                             EQUIP-SCHEDULE = EQUIP_SCHD  EQUIPMENT-KW = 10.0
* 119 *                             EQUIP-SENSIBLE = 0.0  SOURCE-SCHEDULE = FULL ON
* 120 *                             SOURCE-TYPE = HOT-WATER  SOURCE-BTU/HR = 22831.0
* 121 *                             SOURCE-SENSIBLE = 0.0  INF-METHOD = AIR-CHANGE
* 122 *                             AIR-CHANGES/HR = 0.33  INF-SCHEDULE = FULL_ON ..
* 123 *
* 124 * U-W      HEIGHT = 101.1  WIDTH = 162.0  CONS = FLOORCON
* 125 *                             AZIMUTH = 315 ..
* 126 *
* 127 * ROOF      HEIGHT = 101.1  WIDTH = 162.0  CONS = ROOF_CON
* 128 *                             AZIMUTH = 315  TILT = 0 ..
* 129 *
* 130 * E-W      HEIGHT = 9.0  WIDTH = 126.0  CONS = WALL_CON
* 131 *                             AZIMUTH = 45 ..
* 132 *
* 133 * WINDOW HEIGHT = 4.0  WIDTH = 5.0  G-T = G_TYPE1
* 134 *                             MULTIPLIER = 4.0 ..
* 135 *
* 136 * WINDOW HEIGHT = 4.0  WIDTH = 4.0  G-T = G_TYPE1
* 137 *                             MULTIPLIER = 6.0 ..
* 138 *
* 139 * WINDOW HEIGHT = 7.5  WIDTH = 3.0  G-T = G_TYPE1 ..
* 140 *
* 141 * E-W      HEIGHT = 9.0  WIDTH = 162.0  CONS = WALL_CON
* 142 *                             AZIMUTH = 135 ..
* 143 *
* 144 * WINDOW HEIGHT = 4.0  WIDTH = 11.0  G-T = G_TYPE1
* 145 *                             MULTIPLIER = 4.0 ..
* 146 *
* 147 * WINDOW HEIGHT = 4.0  WIDTH = 4.0  G-T = G_TYPE1
* 148 *                             MULTIPLIER = 2.0 ..
* 149 *
* 150 * WINDOW HEIGHT = 4.0  WIDTH = 3.0  G-T = G_TYPE1
* 151 *                             MULTIPLIER = 2.0 ..
* 152 *
* 153 * WINDOW HEIGHT = 11.0  WIDTH = 12.0  G-T = G_TYPE1 ..
* 154 *
* 155 * WINDOW HEIGHT = 7.5  WIDTH = 7.5  G-T = G_TYPE1 ..
* 156 *
* 157 * E-W      HEIGHT = 9.0  WIDTH = 126.0  CONS = WALL_CON
* 158 *                             AZIMUTH = 225 ..
* 159 *
* 160 * WINDOW HEIGHT = 4.0  WIDTH = 5.0  G-T = G_TYPE1
* 161 *                             MULTIPLIER = 4.0 ..
* 162 *
* 163 * WINDOW HEIGHT = 4.0  WIDTH = 4.0  G-T = G_TYPE1
* 164 *                             MULTIPLIER = 8.0 ..
* 165 *
* 166 * E-W      HEIGHT = 9.0  WIDTH = 162.0  CONS = WALL_CON
* 167 *                             AZIMUTH = 315 ..
* 168 *
* 169 * DOOR      HEIGHT = 7.5  WIDTH = 3.0  CONS = DOOR_CON
* 170 *                             MULTIPLIER = 2.0 ..
* 171 *
* 172 * WINDOW HEIGHT = 4.0  WIDTH = 4.0  G-T = G_TYPE1
* 173 *                             MULTIPLIER = 4.0 ..
* 174 *
* 175 * WINDOW HEIGHT = 5.3  WIDTH = 5.3  G-T = G_TYPE1 ..
* 176 *
* 177 *
* 178 * END ..
* 179 * COMPUTE LOADS ..
* 180 *
* 181 * INPUT SYSTEMS ..

```



# SDL PROCESSOR INPUT DATA

3/27/1995 12: 2:22 SDL RUN 1

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* 182 *
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* 281 *

$-----$
$EZ - DOE SYSTEMS INPUT$
$-----$

$ GENERAL PROJECT DATA

TITLE LINE-1 * EMC ENGINEERS INC. *
LINE-2 *EZDOE - ELITE SOFTWARE DEVELOPMENT INC*
LINE-3 * DENVER, CO 80227 *
LINE-4 *BUILDING 10506, TROOP MEDICAL CLINIC *
LINE-5 *MODEL WITH SETBACK,55 F,85 F * ..

ABORT ERRORS ..
DIAGNOSTIC WARNINGS ..
SYSTEMS-REPORT SUMMARY=(SS-A,SS-B,SS-C) ..

$ SCHEDULES

FULL_ON_D =DAY-SCHEDULE (1,24) (1.) ..
FULL_OFF_D =DAY-SCHEDULE (1,24) (0.) ..
HEAT_68_D =DAY-SCHEDULE (1,24) (70.) ..
COOL_72_D =DAY-SCHEDULE (1,24) (72.) ..
HEAT_55_D =DAY-SCHEDULE (1,24) (55.) ..
FAN_SB_D =DAY-SCHEDULE (1,5) (0.)
(6,16) (1.)
(17,24) (0.) ..
HT_W_SB_D =DAY-SCHEDULE (1,5) (50.)
(6,16) (70.)
(17,24) (55.) ..
CL_W_SB_D =DAY-SCHEDULE (1,5) (85.)
(6,16) (72.)
(17,24) (85.) ..
50_D =DAY-SCHEDULE (1,24) (50.) ..
85_D =DAY-SCHEDULE (1,24) (85.) ..

FULL_ON_W =WEEK-SCHEDULE (ALL) FULL_ON_D ..
FULL_OFF_W =WEEK-SCHEDULE (ALL) FULL_OFF_D ..
HEAT_68_W =WEEK-SCHEDULE (ALL) HEAT_68_D ..
COOL_72_W =WEEK-SCHEDULE (ALL) COOL_72_D ..
FAN_SB_W =WEEK-SCHEDULE (WD) FAN_SB_D
(SAT) FAN_SB_D
(SUN) FULL_OFF_D
(HOL) FAN_SB_D ..
HT_W_SB_W =WEEK-SCHEDULE (WD) HT_W_SB_D
(SAT) HT_W_SB_D
(SUN) 50_D
(HOL) HT_W_SB_D ..
CL_W_SB_W =WEEK-SCHEDULE (WD) CL_W_SB_D
(SAT) CL_W_SB_D
(SUN) 85_D
(HOL) CL_W_SB_D ..

$ FULL_ON SCHEDULE
FULL_ON =SCHEDULE THRU DEC 31 FULL_ON_W ..
$ FULL OFF SCHEDULE
FULL_OFF =SCHEDULE THRU DEC 31 FULL_OFF_W ..
$ HEATING SCHEDULE
HEAT_70 =SCHEDULE THRU DEC 31 HEAT_68_W ..
$ COOLING SCHEDULE 72 F
COOL_72_Y =SCHEDULE THRU DEC 31 COOL_72_W ..
FAN_SB =SCHEDULE THRU DEC 31 FAN_SB_W ..
HT_W_SB =SCHEDULE THRU DEC 31 HT_W_SB_W ..
CL_W_SB =SCHEDULE THRU DEC 31 CL_W_SB_W ..

$ ZONE DESCRIPTION
WHOLE_BLDG =ZONE
DESIGN-HEAT-T = 70.0 DESIGN-COOL-T = 72.0
HEAT-TEMP-SCH = HT_W_SB COOL-TEMP-SCH = CL_W_SB
ZONE-TYPE = CONDITIONED
THERMOSTAT-TYPE = PROPORTIONAL THROTTLING-RANGE = 1.0
BASEBOARD-CTRL = THERMOSTATIC
BASEBOARD-RATING = -10000000. ASSIGNED-CFM = 11500.
OUTSIDE-AIR-CFM = 2440. SIZING-OPTION = FROM-LOADS
RATED-CFM = 11500.0 MIN-CFM-RATIO = 0.84
EXHAUST-CFM = 2440.0 HEATING-CAPACITY = -449500.0
COOLING-CAPACITY = 453900.0 ..

$ SYSTEM DESCRIPTION
AHU_1 =SYSTEM
SYSTEM-TYPE = PMZS
MAX-SUPPLY-T = 75.0 MIN-SUPPLY-T = 55.0
MIN-HUMIDITY = 30.0 ECONO-LIMIT-T = 65.0

```

```

* 282 *      ECONO-LOW-LIMIT = 55.0  COOL-CONTROL = WARMEST
* 283 *      SUPPLY-CFM = 11500.  RETURN-CFM = 6860.
* 284 *      RATED-CFM = 11550.  MAX-OA-FRACTION = 0.21
* 285 *      FAN-SCHEDULE = FAN_SB  FAN-CONTROL = INLET
* 286 *      SUPPLY-DELTA-T = 2.1  SUPPLY-KW = 0.00049
* 287 *      MOTOR-PLACEMENT = OUTSIDE-AIRFLOW
* 288 *      NIGHT-CYCLE-CTRL = CYCLE-ON-ANY
* 289 *      RETURN-STATIC = 1.25  RETURN-EFF = 1.0
* 290 *      MIN-CFM-RATIO = 0.81  COOLING-CAPACITY = 453900.
* 291 *      COOLING-EIR = 0.33  HEATING-CAPACITY = -449500.
* 292 *      FURNACE-AUX = 0.  CRANKCASE-MAX-T = 0.
* 293 *      OUTSIDE-FAN-T = 45.  HEAT-SOURCE = HOT-WATER
* 294 *      BASEBOARD-SOURCE = HOT-WATER
* 295 *      ZONE-NAMES = (WHOLE_BLDG)  ..
* 296 *
* 297 * END  ..
* 298 * COMPUTE SYSTEMS  ..
* 299 *
* 300 * INPUT PLANT  ..

```

PDL PROCESSOR INPUT DATA

3/27/1995 12: 2:22 PDL RUN 1

```

* 301 *
* 302 *
* 303 *           $-----$
* 304 *           $ E Z - D O E   P L A N T S   I N P U T $
* 305 *           $-----$
* 306 *
* 307 *           $ GENERAL PROJECT DATA
* 308 *
* 309 * TITLE  LINE-1 *      EMC      ENGINEERS      INC.      *
* 310 * LINE-2 *EZDOE - ELITE SOFTWARE DEVELOPMENT INC*
* 311 * LINE-3 *      DENVER,      CO      80227      *
* 312 *
* 313 * LINE-4 *BUILDING 10506, TROOP MEDICAL CLINIC      *
* 314 * LINE-5 *MODEL WITH SETBACK,55 F,85 F      * ..
* 315 *
* 316 * ABORT      ERRORS      ..
* 317 * DIAGNOSTIC      WARNINGS ..
* 318 * PLANT-REPORT      SUMMARY=(PS-A,PS-B,BEPS)
* 319 * ..
* 320 *
* 321 *           $ SCHEDULES
* 322 *
* 323 * FULL_ON_D  =DAY-SCHEDULE  (1,24) (1.) ..
* 324 *
* 325 *
* 326 * FULL_ON_W  =WEEK-SCHEDULE  (ALL) FULL_ON_D ..
* 327 *
* 328 *
* 329 * $ FULL ON SCHEDULE
* 330 * FULL_ON    =SCHEDULE THRU DEC 31 FULL_ON_W ..
* 331 *
* 332 *
* 333 *           $ EQUIPMENT DESCRIPTION
* 334 *
* 335 *
* 336 * HX          =PLANT-EQUIPMENT  TYPE = HTANK-STORAGE
* 337 *          SIZE = 0.5 ..
* 338 *
* 339 * PLANT-PARAMETERS      OPEN-REC-COND-TYPE = AIR  OPEN-CENT-COND-PWR = 0.13
* 340 *          OPEN-REC-COND-PWR = 0.19  HCIRC-HEAD = 22.0 ..
* 341 *
* 342 *
* 343 * ENERGY-RESOURCE      RESOURCE = ELECTRICITY ..
* 344 * ENERGY-RESOURCE      RESOURCE = STEAM  SOURCE-SITE-EFF = 1.000 ..
* 345 *
* 346 * ENERGY-STORAGE      HEAT-STORE-RATE = 0.46  HEAT-SUPPLY-RATE = 0.46
* 347 *          HTANK-BASE-T = 195.0  HTANK-T-RANGE = 50.0
* 348 *          HEAT-STORE-SCH = FULL_ON ..
* 349 *
* 350 * HEAT-RECOVERY
* 351 * SUPPLY-1 = (HTANK-STORAGE)
* 352 * DEMAND-1 = (SPACE-HEAT,PROCESS-HEAT) ..
* 353 *
* 354 *
* 355 *
* 356 * END ..
* 357 * COMPUTE PLANT ..
* 358 * STOP ..

```

ENERGY TYPE IN SITE MBTU-	STEAM	ELECTRICITY
CATEGORY OF USE		
SPACE HEAT	896.33	36.32
SPACE COOL	0.00	28.15
HVAC AUX	0.00	67.27
DOM HOT WTR	200.01	0.00
AUX SOLAR	0.00	0.00
LIGHTS	0.00	53.25
VERT TRANS	0.00	0.00
MISC EQUIP	0.00	14.19
	-----	-----
TOTAL	1,096.34	199.18

TOTAL SITE ENERGY 1295.51 MBTU 79.1 KBTU/SQFT-YR GROSS-AREA 79.1 KBTU/SQFT-YR NET-AREA  
 TOTAL SOURCE ENERGY 1694.46 MBTU 103.4 KBTU/SQFT-YR GROSS-AREA 103.4 KBTU/SQFT-YR NET-AREA

PERCENT OF HOURS ANY SYSTEM ZONE OUTSIDE OF THROTTLING RANGE = 0.0  
 PERCENT OF HOURS ANY PLANT LOAD NOT SATISFIED = 0.0

NOTE ELECTRICITY AND/OR FUEL USED TO GENERATE ELECTRICITY IS APPORTIONED BASED  
 ON THE YEARLY DEMAND. ALL OTHER ENERGY TYPES ARE APPORTIONED HOURLY.

MO	UTILITY-	STEAM	ELECTRICITY
	TOTAL (MBTU)	193.248	23.979
JAN	PEAK (KBTU)	1137.172	137.344
	DY/HR	24/ 6	8/ 7
	TOTAL (MBTU)	150.819	18.445
FEB	PEAK (KBTU)	1064.763	140.844
	DY/HR	14/ 6	5/ 7
	TOTAL (MBTU)	151.557	19.168
MAR	PEAK (KBTU)	992.126	132.800
	DY/HR	28/ 6	26/ 7
	TOTAL (MBTU)	96.315	14.328
APR	PEAK (KBTU)	743.616	111.942
	DY/HR	4/ 6	2/16
	TOTAL (MBTU)	61.383	13.081
MAY	PEAK (KBTU)	631.967	82.018
	DY/HR	16/ 6	7/ 7
	TOTAL (MBTU)	27.806	13.395
JUN	PEAK (KBTU)	296.261	105.257
	DY/HR	8/ 6	4/16
	TOTAL (MBTU)	20.826	19.217
JUL	PEAK (KBTU)	259.720	151.689
	DY/HR	25/ 6	2/16
	TOTAL (MBTU)	24.290	16.253
AUG	PEAK (KBTU)	231.759	129.682
	DY/HR	22/ 6	6/16
	TOTAL (MBTU)	38.092	13.748
SEP	PEAK (KBTU)	364.155	160.455
	DY/HR	23/ 6	3/16
	TOTAL (MBTU)	68.366	13.845
OCT	PEAK (KBTU)	509.787	91.439
	DY/HR	28/ 6	29/ 7
	TOTAL (MBTU)	108.583	13.722
NOV	PEAK (KBTU)	926.219	129.924
	DY/HR	28/ 6	26/16
	TOTAL (MBTU)	155.045	19.998
DEC	PEAK (KBTU)	985.834	134.041
	DY/HR	26/ 6	3/16
	ONE YEAR	1096.329	199.178
	USE/PEAK	1137.172	160.455

**COMPUTER SIMULATIONS**  
**BUILDING 10506**

**RUN 3 - DDC**

LDL PROCESSOR INPUT DATA

3/18/1995 9: 6:47 LDL RUN 1

```

* 3 *
* 4 *
* 5 *
* 6 *
* 7 *
* 8 *
* 9 *
* 10 *
* 11 * TITLE LINE-1 * EMC ENGINEERS INC. *
* 12 * LINE-2 *EZDOE - ELITE SOFTWARE DEVELOPMENT INC*
* 13 * LINE-3 * DENVER, CO 80227 *
* 14 *
* 15 * LINE-4 *BUILDING 10506, TROOP MEDICAL CLINIC *
* 16 * LINE-5 *MODEL WITH SETBACK AND DDC *
* 17 *
* 18 * ABORT ERRORS ..
* 19 * DIAGNOSTIC WARNINGS ..
* 20 * LOADS-REPORT SUMMARY=(LS-C,LS-D) ..
* 21 * BUILDING-LOCATION X-REF = 0.0
* 22 * Y-REF = 0.0
* 23 * RUN-PERIOD JAN 1 1994 THRU DEC 31 1994 ..
* 24 *
* 25 *
* 26 * $ SCHEDULES
* 27 *
* 28 * FULL_ON_D =DAY-SCHEDULE (1,24) (1.) ..
* 29 *
* 30 * FULL_OFF_D =DAY-SCHEDULE (1,24) (0.) ..
* 31 *
* 32 * PEOPLE_D =DAY-SCHEDULE (1,5) (0.)
* 33 * (6,7) (0.1,0.5)
* 34 * (8,13) (1.)
* 35 * (14,17) (0.8,0.5,0.4,0.8)
* 36 * (18,19) (0.4,0.1)
* 37 * (20,24) (0.) ..
* 38 *
* 39 * LIGHT_D =DAY-SCHEDULE (1,5) (0.05)
* 40 * (6,8) (0.4,0.5,0.4)
* 41 * (9,11) (0.3)
* 42 * (12,13) (0.4)
* 43 * (14,15) (0.3)
* 44 * (16,18) (0.5,0.7,0.5)
* 45 * (19,24) (0.05) ..
* 46 *
* 47 * LIGHT_SAT =DAY-SCHEDULE (1,11) (0.05)
* 48 * (12) (0.4)
* 49 * (13,14) (0.9)
* 50 * (15) (0.55)
* 51 * (16,19) (0.4)
* 52 * (20,24) (0.05) ..
* 53 *
* 54 * EQUIP_D =DAY-SCHEDULE (1,5) (0.)
* 55 * (6,17) (0.33)
* 56 * (18,24) (0.) ..
* 57 *
* 58 *
* 59 * PEOPLE_W =WEEK-SCHEDULE (WD) PEOPLE_D
* 60 * (WEH) FULL_OFF_D ..
* 61 *
* 62 * FULL_ON_W =WEEK-SCHEDULE (ALL) FULL_ON_D ..
* 63 *
* 64 * FULL_OFF_W =WEEK-SCHEDULE (ALL) FULL_OFF_D ..
* 65 *
* 66 * LIGHT_ON_W =WEEK-SCHEDULE (WD) FULL_OFF_D
* 67 * (SAT) LIGHT_D
* 68 * (SUN) LIGHT_D
* 69 * (HOL) FULL_OFF_D ..
* 70 *
* 71 * EQUIP_W =WEEK-SCHEDULE (WD) FULL_OFF_D
* 72 * (SAT) EQUIP_D
* 73 * (SUN) EQUIP_D
* 74 * (HOL) FULL_OFF_D ..
* 75 *
* 76 *
* 77 * $ FULL ON SCHEDULE
* 78 * FULL_ON =SCHEDULE THRU DEC 31 FULL_ON_W ..
* 79 *
* 80 * $ FULL OFF SCHEDULE
* 81 * FULL_OFF =SCHEDULE THRU DEC 31 FULL_OFF_W ..
* 82 *
* 83 * $ OCCUPANCY SCHEDULE
* 84 * PEOPLE_SCD =SCHEDULE THRU DEC 31 PEOPLE_W ..
* 85 *
* 86 * $ LIGHTING SCHEDULE
* 87 * LIGHT_SCHD =SCHEDULE THRU DEC 31 LIGHT_ON_W ..
* 88 *
* 89 * $ VACUUM SYST & WASTE SYS
* 90 * EQUIP_SCHD =SCHEDULE THRU DEC 31 EQUIP_W ..
* 91 *
* 92 *
* 93 *
* 94 * $ CONSTRUCTION TYPES
* 95 *
* 96 *
* 97 *
* 98 * FLOORCON =CONSTRUCTION U-VALUE = 0.100 ..
* 99 * ROOF_CON =CONSTRUCTION U-VALUE = 0.050 ..
* 100 * WALL_CON =CONSTRUCTION U-VALUE = 0.200 ..
* 101 * DOOR_CON =CONSTRUCTION U-VALUE = 1.000 ..
* 102 *

```

```

* 103 * G_TYPE1 =GLASS-TYPE      GLASS-TYPE-CODE = 3
* 104 *                             PANES = 1
* 105 *                             GLASS-CONDUCTANCE = 0.900 ..
* 106 *
* 107 *
* 108 *
* 109 *
* 110 *
* 111 *
* 112 * $ SPACE DESCRIPTION
* 113 *
* 114 * WHOLE_BLDG =SPACE      AREA = 16386.0  VOLUME = 147575.0
* 115 *                             AZIMUTH = 315  TEMPERATURE = (68.)
* 116 *                             ZONE-TYPE = CONDITIONED  PEOPLE-SCHEDULE = PEOPLE_SCD
* 117 *                             NUMBER-OF-PEOPLE = 100.0  PEOPLE-HEAT-GAIN = 450.0
* 118 *                             PEOPLE-HG-SENS = 1.0  LIGHTING-TYPE = REC-FLUOR-RV
* 119 *                             LIGHTING-KW = 25.4  LIGHTING-SCHEDULE = LIGHT_SCHD
* 120 *                             EQUIP-SCHEDULE = EQUIP_SCHD  EQUIPMENT-KW = 10.0
* 121 *                             EQUIP-SENSIBLE = 0.0  SOURCE-SCHEDULE = FULL_ON
* 122 *                             SOURCE-TYPE = HOT-WATER  SOURCE-BTU/HR = 22831.0
* 123 *                             SOURCE-SENSIBLE = 0.0  INF-METHOD = AIR-CHANGE
* 124 *                             AIR-CHANGES/HR = 0.33  INF-SCHEDULE = FULL_ON ..
* 125 *
* 126 *
* 127 * U-W      HEIGHT = 101.1  WIDTH = 162.0  CONS = FLOORCON
* 128 *      AZIMUTH = 315  ..
* 129 *
* 130 * ROOF      HEIGHT = 101.1  WIDTH = 162.0  CONS = ROOF_CON
* 131 *      AZIMUTH = 315  TILT = 0  ..
* 132 *
* 133 * E-W      HEIGHT = 9.0  WIDTH = 126.0  CONS = WALL_CON
* 134 *      AZIMUTH = 45  ..
* 135 *
* 136 * WINDOW HEIGHT = 4.0  WIDTH = 5.0  G-T = G_TYPE1
* 137 *      MULTIPLIER = 4.0  ..
* 138 *
* 139 * WINDOW HEIGHT = 4.0  WIDTH = 4.0  G-T = G_TYPE1
* 140 *      MULTIPLIER = 6.0  ..
* 141 *
* 142 * WINDOW HEIGHT = 7.5  WIDTH = 3.0  G-T = G_TYPE1 ..
* 143 *
* 144 * E-W      HEIGHT = 9.0  WIDTH = 162.0  CONS = WALL_CON
* 145 *      AZIMUTH = 135  ..
* 146 *
* 147 * WINDOW HEIGHT = 4.0  WIDTH = 11.0  G-T = G_TYPE1
* 148 *      MULTIPLIER = 4.0  ..
* 149 *
* 150 * WINDOW HEIGHT = 4.0  WIDTH = 4.0  G-T = G_TYPE1
* 151 *      MULTIPLIER = 2.0  ..
* 152 *
* 153 * WINDOW HEIGHT = 4.0  WIDTH = 3.0  G-T = G_TYPE1
* 154 *      MULTIPLIER = 2.0  ..
* 155 *
* 156 * WINDOW HEIGHT = 11.0  WIDTH = 12.0  G-T = G_TYPE1 ..
* 157 *
* 158 * WINDOW HEIGHT = 7.5  WIDTH = 7.5  G-T = G_TYPE1 ..
* 159 *
* 160 * E-W      HEIGHT = 9.0  WIDTH = 126.0  CONS = WALL_CON
* 161 *      AZIMUTH = 225  ..
* 162 *
* 163 * WINDOW HEIGHT = 4.0  WIDTH = 5.0  G-T = G_TYPE1
* 164 *      MULTIPLIER = 4.0  ..
* 165 *
* 166 * WINDOW HEIGHT = 4.0  WIDTH = 4.0  G-T = G_TYPE1
* 167 *      MULTIPLIER = 8.0  ..
* 168 *
* 169 * E-W      HEIGHT = 9.0  WIDTH = 162.0  CONS = WALL_CON
* 170 *      AZIMUTH = 315  ..
* 171 *
* 172 * DOOR      HEIGHT = 7.5  WIDTH = 3.0  CONS = DOOR_CON
* 173 *      MULTIPLIER = 2.0  ..
* 174 *
* 175 * WINDOW HEIGHT = 4.0  WIDTH = 4.0  G-T = G_TYPE1
* 176 *      MULTIPLIER = 4.0  ..
* 177 *
* 178 * WINDOW HEIGHT = 5.3  WIDTH = 5.3  G-T = G_TYPE1 ..
* 179 *
* 180 *
* 181 * END ..
* 182 * COMPUTE LOADS ..
* 183 *
* 184 * INPUT SYSTEMS ..

```



SDL PROCESSOR INPUT DATA

3/18/1995 9: 6:47 SDL RUN 1

```

* 182 *
* 183 *
* 184 *          $-----$
* 185 *          $ E Z - D O E   S Y S T E M S   I N P U T $
* 186 *          $-----$
* 187 *
* 188 *          $ GENERAL PROJECT DATA
* 189 *
* 190 * TITLE  LINE-1 *      EMC      ENGINEERS      INC.      *
* 191 *          LINE-2 *EZDOE - ELITE SOFTWARE DEVELOPMENT INC*
* 192 *          LINE-3 *      DENVER,      CO      80227      *
* 193 *
* 194 *          LINE-4 *BUILDING 10506, TROOP MEDICAL CLINIC      *
* 195 *          LINE-5 *MODEL WITH SETBACK AND DDC      * ..
* 196 * ABORT      ERRORS      ..
* 197 * DIAGNOSTIC  WARNINGS ..
* 198 * SYSTEMS-REPORT SUMMARY=(SS-A,SS-C,SS-F,SS-K,SS-O) ..
* 199 *
* 200 *          $ SCHEDULES
* 201 *
* 202 * FULL_ON_D  =DAY-SCHEDULE (1,24) (1.) ..
* 203 * FULL_OFF_D =DAY-SCHEDULE (1,24) (0.) ..
* 204 * HEAT_68_D  =DAY-SCHEDULE (1,24) (68.) ..
* 205 * COOL_72_D  =DAY-SCHEDULE (1,24) (72.) ..
* 206 * HEAT_55_D  =DAY-SCHEDULE (1,24) (55.) ..
* 207 * FAN_SB_D   =DAY-SCHEDULE (1,5) (0.) ..
* 208 *          (6,16) (1.) ..
* 209 *          (17,24) (0.) ..
* 210 * HT_W_SB_D  =DAY-SCHEDULE (1,5) (50.) ..
* 211 *          (6,16) (68.) ..
* 212 *          (17,24) (55.) ..
* 213 * CL_W_SB_D  =DAY-SCHEDULE (1,5) (85.) ..
* 214 *          (6,16) (78.) ..
* 215 *          (17,24) (85.) ..
* 216 * 50_D       =DAY-SCHEDULE (1,24) (50.) ..
* 217 * 85_D       =DAY-SCHEDULE (1,24) (85.) ..
* 218 *
* 219 * FULL_ON_W  =WEEK-SCHEDULE (ALL) FULL_ON_D ..
* 220 *
* 221 * FULL_OFF_W =WEEK-SCHEDULE (ALL) FULL_OFF_D ..
* 222 *
* 223 * HEAT_68_W  =WEEK-SCHEDULE (ALL) HEAT_68_D ..
* 224 *
* 225 * COOL_72_W  =WEEK-SCHEDULE (ALL) COOL_72_D ..
* 226 *
* 227 * FAN_SB_W   =WEEK-SCHEDULE (WD) FAN_SB_D
* 228 *          (SAT) FAN_SB_D
* 229 *          (SUN) FULL_OFF_D
* 230 *          (HOL) FAN_SB_D ..
* 231 *
* 232 * HT_W_SB_W  =WEEK-SCHEDULE (WD) HT_W_SB_D
* 233 *          (SAT) HT_W_SB_D
* 234 *          (SUN) 50_D
* 235 *          (HOL) HT_W_SB_D ..
* 236 *
* 237 * CL_W_SB_W  =WEEK-SCHEDULE (WD) CL_W_SB_D
* 238 *          (SAT) CL_W_SB_D
* 239 *          (SUN) 85_D
* 240 *          (HOL) CL_W_SB_D ..
* 241 *
* 242 *
* 243 * $ FULL ON SCHEDULE
* 244 * FULL_ON    =SCHEDULE THRU DEC 31 FULL_ON_W ..
* 245 *
* 246 * $ FULL OFF SCHEDULE
* 247 * FULL_OFF   =SCHEDULE THRU DEC 31 FULL_OFF_W ..
* 248 *
* 249 * $ HEATING SCHEDULE
* 250 * HEAT_70    =SCHEDULE THRU DEC 31 HEAT_68_W ..
* 251 *
* 252 * $ COOLING SCHEDULE 72 F
* 253 * COOL_72_Y  =SCHEDULE THRU DEC 31 COOL_72_W ..
* 254 *
* 255 * FAN_SB     =SCHEDULE THRU DEC 31 FAN_SB_W ..
* 256 *
* 257 * HT_W_SB    =SCHEDULE THRU DEC 31 HT_W_SB_W ..
* 258 *
* 259 * CL_W_SB    =SCHEDULE THRU DEC 31 CL_W_SB_W ..
* 260 *
* 261 *
* 262 *
* 263 *          $ ZONE DESCRIPTION
* 264 *
* 265 * WHOLE_BLDG =ZONE  DESIGN-HEAT-T = 68.0 DESIGN-COOL-T = 78.0
* 266 *          HEAT-TEMP-SCH = HT_W_SB COOL-TEMP-SCH = CL_W_SB
* 267 *          ZONE-TYPE = CONDITIONED
* 268 *          THERMOSTAT-TYPE = PROPORTIONAL THROTTLING-RANGE = 1.0
* 269 *          BASEBOARD-CTRL = THERMOSTATIC
* 270 *          BASEBOARD-RATING = -10000000. ASSIGNED-CFM = 11500.
* 271 *          OUTSIDE-AIR-CFM = 2440. SIZING-OPTION = FROM-LOADS
* 272 *          RATED-CFM = 11500.0 MIN-CFM-RATIO = 0.84
* 273 *          EXHAUST-CFM = 2440.0 HEATING-CAPACITY = -449500.0
* 274 *          COOLING-CAPACITY = 453900.0 ..
* 275 *
* 276 *
* 277 *          $ SYSTEM DESCRIPTION
* 278 *
* 279 * AHU_1      =SYSTEM  SYSTEM-TYPE = PMZS
* 280 *          MAX-SUPPLY-T = 75.0 MIN-SUPPLY-T = 55.0
* 281 *          MIN-HUMIDITY = 30.0 ECONO-LIMIT-T = 65.0

```

```

* 282 *          ECONO-LOW-LIMIT = 55.0  COOL-CONTROL = WARMEST
* 283 *          SUPPLY-CFM = 11500.  RETURN-CFM = 6860.
* 284 *          RATED-CFM = 11550.  MAX-OA-FRACTION = 0.21
* 285 *          FAN-SCHEDULE = FAN_SB  FAN-CONTROL = INLET
* 286 *          SUPPLY-DELTA-T = 2.1  SUPPLY-KW = 0.00049
* 287 *          MOTOR-PLACEMENT = OUTSIDE-AIRFLOW
* 288 *          NIGHT-CYCLE-CTRL = CYCLE-ON-ANY
* 289 *          RETURN-STATIC = 1.25  RETURN-EFF = 1.0
* 290 *          MIN-CFM-RATIO = 0.81  COOLING-CAPACITY = 453900.
* 291 *          COOLING-EIR = 0.33  HEATING-CAPACITY = -449500.
* 292 *          FURNACE-AUX = 0.  CRANKCASE-MAX-T = 0.
* 293 *          OUTSIDE-FAN-T = 45.  HEAT-SOURCE = HOT-WATER
* 294 *          BASEBOARD-SOURCE = HOT-WATER
* 295 *          ZONE-NAMES = (WHOLE_BLDG)  ..
* 296 *
* 297 * END  ..
* 298 * COMPUTE SYSTEMS  ..
* 299 *
* 300 * INPUT PLANT  ..

```

PDL PROCESSOR INPUT DATA

3/18/1995 9: 6:47 PDL RUN 1

```

* 301 *
* 302 *
* 303 *          $-----$
* 304 *          $EZ - DOE PLANTS INPUT$
* 305 *          $-----$
* 306 *
* 307 *          $ GENERAL PROJECT DATA
* 308 *
* 309 * TITLE LINE-1 *      EMC      ENGINEERS      INC.      *
* 310 * LINE-2 *EZDOE - ELITE SOFTWARE DEVELOPMENT INC*
* 311 * LINE-3 *      DENVER,      CO      80227      *
* 312 *
* 313 * LINE-4 *BUILDING 10506, TROOP MEDICAL CLINIC      *
* 314 * LINE-5 *MODEL WITH SETBACK AND DDC      * ..
* 315 *
* 316 * ABORT      ERRORS ..
* 317 * DIAGNOSTIC      WARNINGS ..
* 318 * PLANT-REPORT      SUMMARY=(PS-A,PS-B,BEPS)
* 319 * ..
* 320 *
* 321 *          $ SCHEDULES
* 322 *
* 323 * FULL_ON_D =DAY-SCHEDULE (1,24) (1.) ..
* 324 *
* 325 *
* 326 * FULL_ON_W =WEEK-SCHEDULE (ALL) FULL_ON_D ..
* 327 *
* 328 *
* 329 * $ FULL ON SCHEDULE
* 330 * FULL_ON =SCHEDULE THRU DEC 31 FULL_ON_W ..
* 331 *
* 332 *
* 333 *          $ EQUIPMENT DESCRIPTION
* 334 *
* 335 *
* 336 * HX      =PLANT-EQUIPMENT      TYPE = HTANK-STORAGE
* 337 *          SIZE = 0.5 ..
* 338 *
* 339 * PLANT-PARAMETERS      OPEN-REC-COND-TYPE = AIR      OPEN-CENT-COND-PWR = 0.13
* 340 *          OPEN-REC-COND-PWR = 0.19      HCIRC-HEAD = 22.0 ..
* 341 *
* 342 *
* 343 * ENERGY-RESOURCE      RESOURCE = ELECTRICITY ..
* 344 * ENERGY-RESOURCE      RESOURCE = STEAM      SOURCE-SITE-EFF = 1.000 ..
* 345 *
* 346 * ENERGY-STORAGE      HEAT-STORE-RATE = 0.46      HEAT-SUPPLY-RATE = 0.46
* 347 *          HTANK-BASE-T = 195.0      HTANK-T-RANGE = 50.0
* 348 *          HEAT-STORE-SCH = FULL_ON ..
* 349 *
* 350 *          HEAT-RECOVERY
* 351 *          SUPPLY-1 = (HTANK-STORAGE)
* 352 *          DEMAND-1 = (SPACE-HEAT,PROCESS-HEAT) ..
* 353 *
* 354 *
* 355 *
* 356 * END ..
* 357 * COMPUTE PLANT ..
* 358 * STOP ..

```

MO	UTILITY-	STEAM	ELECTRICITY
	TOTAL (MBTU)	187.457	22.875
JAN	PEAK (KBTU)	1063.092	133.109
	DY/HR	24/ 6	8/ 7
	TOTAL (MBTU)	144.918	17.493
FEB	PEAK (KBTU)	995.985	136.663
	DY/HR	14/ 6	5/ 7
	TOTAL (MBTU)	144.675	18.122
MAR	PEAK (KBTU)	924.887	128.477
	DY/HR	28/ 6	26/ 7
	TOTAL (MBTU)	89.579	13.764
APR	PEAK (KBTU)	700.636	107.843
	DY/HR	4/ 6	2/16
	TOTAL (MBTU)	54.933	12.555
MAY	PEAK (KBTU)	586.058	76.925
	DY/HR	16/ 6	21/ 7
	TOTAL (MBTU)	22.636	11.026
JUN	PEAK (KBTU)	251.473	76.330
	DY/HR	8/ 6	11/ 7
	TOTAL (MBTU)	18.136	13.719
JUL	PEAK (KBTU)	115.616	117.598
	DY/HR	25/ 6	16/16
	TOTAL (MBTU)	19.782	11.989
AUG	PEAK (KBTU)	156.630	108.064
	DY/HR	25/ 6	6/16
	TOTAL (MBTU)	32.237	11.795
SEP	PEAK (KBTU)	335.875	133.703
	DY/HR	24/ 6	3/16
	TOTAL (MBTU)	61.507	13.470
OCT	PEAK (KBTU)	481.571	87.814
	DY/HR	28/ 6	29/ 7
	TOTAL (MBTU)	101.984	13.278
NOV	PEAK (KBTU)	866.830	124.959
	DY/HR	28/ 6	26/16
	TOTAL (MBTU)	148.522	19.104
DEC	PEAK (KBTU)	914.135	130.136
	DY/HR	26/ 6	3/ 7
	ONE YEAR	1026.365	179.189
	USE/PEAK	1063.092	136.663

ENERGY TYPE IN SITE MBTU-	STEAM	ELECTRICITY
CATEGORY OF USE		
SPACE HEAT	826.35	30.55
SPACE COOL	0.00	14.39
HVAC AUX	0.00	66.81
DOM HOT WTR	200.01	0.00
AUX SOLAR	0.00	0.00
LIGHTS	0.00	53.25
VERT TRANS	0.00	0.00
MISC EQUIP	0.00	14.19
	-----	-----
TOTAL	1,026.36	179.19

TOTAL SITE ENERGY 1205.55 MBTU 73.6 KBTU/SQFT-YR GROSS-AREA 73.6 KBTU/SQFT-YR NET-AREA  
 TOTAL SOURCE ENERGY 1564.47 MBTU 95.5 KBTU/SQFT-YR GROSS-AREA 95.5 KBTU/SQFT-YR NET-AREA

PERCENT OF HOURS ANY SYSTEM ZONE OUTSIDE OF THROTTLING RANGE = 0.0  
 PERCENT OF HOURS ANY PLANT LOAD NOT SATISFIED = 0.0

NOTE ELECTRICITY AND/OR FUEL USED TO GENERATE ELECTRICITY IS APPORTIONED BASED  
 ON THE YEARLY DEMAND. ALL OTHER ENERGY TYPES ARE APPORTIONED HOURLY.

EMC ENGINEERS INC. EZDOE - ELITE SOFTWARE DEVELOPMENT INC DOE-2.1D 3/18/1995 9: 6:47 PDL RUN 1  
DENVER, CO 80227 BUILDING 10506, TROOP MEDICAL CLINIC MODEL WITH SETBACK AND DDC  
REPORT- PS-B MONTHLY PEAK AND TOTAL ENERGY USE WEATHER FILE- MASSENA, NY

MO	UTILITY-	STEAM	ELECTRICITY
	TOTAL (MBTU)	187.457	22.875
JAN	PEAK (KBTU)	1063.092	133.109
	DY/HR	24/ 6	8/ 7
	TOTAL (MBTU)	144.918	17.493
FEB	PEAK (KBTU)	995.985	136.663
	DY/HR	14/ 6	5/ 7
	TOTAL (MBTU)	144.675	18.122
MAR	PEAK (KBTU)	924.887	128.477
	DY/HR	28/ 6	26/ 7
	TOTAL (MBTU)	89.579	13.764
APR	PEAK (KBTU)	700.636	107.843
	DY/HR	4/ 6	2/16
	TOTAL (MBTU)	54.933	12.555
MAY	PEAK (KBTU)	586.058	76.925
	DY/HR	16/ 6	21/ 7
	TOTAL (MBTU)	22.636	11.026
JUN	PEAK (KBTU)	251.473	76.330
	DY/HR	8/ 6	11/ 7
	TOTAL (MBTU)	18.136	13.719
JUL	PEAK (KBTU)	115.616	117.598
	DY/HR	25/ 6	16/16
	TOTAL (MBTU)	19.782	11.989
AUG	PEAK (KBTU)	156.630	108.064
	DY/HR	25/ 6	6/16
	TOTAL (MBTU)	32.237	11.795
SEP	PEAK (KBTU)	335.875	133.703
	DY/HR	24/ 6	3/16
	TOTAL (MBTU)	61.507	13.470
OCT	PEAK (KBTU)	481.571	87.814
	DY/HR	28/ 6	29/ 7
	TOTAL (MBTU)	101.984	13.278
NOV	PEAK (KBTU)	866.830	124.959
	DY/HR	28/ 6	26/16
	TOTAL (MBTU)	148.522	19.104
DEC	PEAK (KBTU)	914.135	130.136
	DY/HR	26/ 6	3/ 7
	ONE YEAR	1026.365	179.189
	USE/PEAK	1063.092	136.663

**COMPUTER SIMULATIONS**  
**BUILDING 10506**

**RUN 4 - FORCED VENTILATION**

LDL PROCESSOR INPUT DATA

3/18/1995 17:49:16 LDL RUN 1

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* 3 *
* 4 *
* 5 *
* 6 *          $-----$
* 7 *          $EZ - DOE LOADS INPUT $
* 8 *          $-----$
* 9 *          $ GENERAL PROJECT DATA
* 10 *
* 11 * TITLE LINE-1 * EMC ENGINEERS INC. *
* 12 * LINE-2 *EZDOE - ELITE SOFTWARE DEVELOPMENT INC*
* 13 * LINE-3 * DENVER, CO 80227 *
* 14 *
* 15 * LINE-4 *BUILDING 10506, TROOP MEDICAL CLINIC *
* 16 * LINE-5 *SETBACK, DDC, AND FORCED VENTILATION * ..
* 17 *
* 18 * ABORT ERRORS ..
* 19 * DIAGNOSTIC WARNINGS ..
* 20 * LOADS-REPORT SUMMARY=(LS-C,LS-D) ..
* 21 * BUILDING-LOCATION X-REF = 0.0
* 22 * Y-REF = 0.0 ..
* 23 * RUN-PERIOD JAN 1 1994 THRU DEC 31 1994 ..
* 24 *
* 25 *
* 26 *          $ SCHEDULES
* 27 *
* 28 * FULL_ON_D =DAY-SCHEDULE (1,24) (1.) ..
* 29 *
* 30 * FULL_OFF_D =DAY-SCHEDULE (1,24) (0.) ..
* 31 *
* 32 * PEOPLE_D =DAY-SCHEDULE (1,5) (0.)
* 33 * (6,7) (0.1,0.5)
* 34 * (8,13) (1.)
* 35 * (14,17) (0.8,0.5,0.4,0.8)
* 36 * (18,19) (0.4,0.1)
* 37 * (20,24) (0.) ..
* 38 *
* 39 * LIGHT_D =DAY-SCHEDULE (1,5) (0.05)
* 40 * (6,8) (0.4,0.5,0.4)
* 41 * (9,11) (0.3)
* 42 * (12,13) (0.4)
* 43 * (14,15) (0.3)
* 44 * (16,18) (0.5,0.7,0.5)
* 45 * (19,24) (0.05) ..
* 46 *
* 47 * LIGHT_SAT =DAY-SCHEDULE (1,11) (0.05)
* 48 * (12) (0.4)
* 49 * (13,14) (0.9)
* 50 * (15) (0.55)
* 51 * (16,19) (0.4)
* 52 * (20,24) (0.05) ..
* 53 *
* 54 * EQUIP_D =DAY-SCHEDULE (1,5) (0.)
* 55 * (6,17) (0.33)
* 56 * (18,24) (0.) ..
* 57 *
* 58 *
* 59 * PEOPLE_W =WEEK-SCHEDULE (WD) PEOPLE_D
* 60 * (WEH) FULL_OFF_D ..
* 61 *
* 62 * FULL_ON_W =WEEK-SCHEDULE (ALL) FULL_ON_D ..
* 63 *
* 64 * FULL_OFF_W =WEEK-SCHEDULE (ALL) FULL_OFF_D ..
* 65 *
* 66 * LIGHT_ON_W =WEEK-SCHEDULE (WD) FULL_OFF_D
* 67 * (SAT) LIGHT_D
* 68 * (SUN) LIGHT_D
* 69 * (HOL) FULL_OFF_D ..
* 70 *
* 71 * EQUIP_W =WEEK-SCHEDULE (WD) FULL_OFF_D
* 72 * (SAT) EQUIP_D
* 73 * (SUN) EQUIP_D
* 74 * (HOL) FULL_OFF_D ..
* 75 *
* 76 *
* 77 * $ FULL ON SCHEDULE
* 78 * FULL_ON =SCHEDULE THRU DEC 31 FULL_ON_W ..
* 79 *
* 80 * $ FULL OFF SCHEDULE
* 81 * FULL_OFF =SCHEDULE THRU DEC 31 FULL_OFF_W ..
* 82 *
* 83 * $ OCCUPANCY SCHEDULE
* 84 * PEOPLE_SCD =SCHEDULE THRU DEC 31 PEOPLE_W ..
* 85 *
* 86 * $ LIGHTING SCHEDULE
* 87 * LIGHT_SCHD =SCHEDULE THRU DEC 31 LIGHT_ON_W ..
* 88 *
* 89 * $ VACUUM SYST & WASTE SYS
* 90 * EQUIP_SCHD =SCHEDULE THRU DEC 31 EQUIP_W ..
* 91 *
* 92 *
* 93 *
* 94 *          $ CONSTRUCTION TYPES
* 95 *
* 96 *
* 97 *
* 98 * FLOORCON =CONSTRUCTION U-VALUE = 0.100 ..
* 99 * ROOF_CON =CONSTRUCTION U-VALUE = 0.050 ..
* 100 * WALL_CON =CONSTRUCTION U-VALUE = 0.200 ..
* 101 * DOOR_CON =CONSTRUCTION U-VALUE = 1.000 ..
* 102 *

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* 103 * G_TYPE1 =GLASS-TYPE      GLASS-TYPE-CODE = 3
* 104 *                             PANES = 1
* 105 *                             GLASS-CONDUCTANCE = 0.900 ..
* 106 *
* 107 *
* 108 *
* 109 *
* 110 *
* 111 *
* 112 * $ SPACE DESCRIPTION
* 113 *
* 114 * WHOLE_BLDG =SPACE      AREA = 16386.0  VOLUME = 147575.0
* 115 *                        AZIMUTH = 315  TEMPERATURE = (68.)
* 116 *                        ZONE-TYPE = CONDITIONED  PEOPLE-SCHEDULE = PEOPLE_SCD
* 117 *                        NUMBER-OF-PEOPLE = 100.0  PEOPLE-HEAT-GAIN = 450.0
* 118 *                        PEOPLE-HG-SENS = 1.0  LIGHTING-TYPE = REC-FLUOR-RV
* 119 *                        LIGHTING-KW = 25.4  LIGHTING-SCHEDULE = LIGHT_SCHD
* 120 *                        EQUIP-SCHEDULE = EQUIP_SCHD  EQUIPMENT-KW = 10.0
* 121 *                        EQUIP-SENSIBLE = 0.0  SOURCE-SCHEDULE = FULL_ON
* 122 *                        SOURCE-TYPE = HOT-WATER  SOURCE-BTU/HR = 22831.0
* 123 *                        SOURCE-SENSIBLE = 0.0  INF-METHOD = AIR-CHANGE
* 124 *                        AIR-CHANGES/HR = 0.33  INF-SCHEDULE = FULL_ON ..
* 125 *
* 126 *
* 127 * U-W      HEIGHT = 101.1  WIDTH = 162.0  CONS = FLOORCON
* 128 *           AZIMUTH = 315 ..
* 129 *
* 130 * ROOF      HEIGHT = 101.1  WIDTH = 162.0  CONS = ROOF_CON
* 131 *           AZIMUTH = 315  TILT = 0 ..
* 132 *
* 133 * E-W      HEIGHT = 9.0  WIDTH = 126.0  CONS = WALL_CON
* 134 *           AZIMUTH = 45 ..
* 135 *
* 136 * WINDOW HEIGHT = 4.0  WIDTH = 5.0  G-T = G_TYPE1
* 137 *           MULTIPLIER = 4.0 ..
* 138 *
* 139 * WINDOW HEIGHT = 4.0  WIDTH = 4.0  G-T = G_TYPE1
* 140 *           MULTIPLIER = 6.0 ..
* 141 *
* 142 * WINDOW HEIGHT = 7.5  WIDTH = 3.0  G-T = G_TYPE1 ..
* 143 *
* 144 * E-W      HEIGHT = 9.0  WIDTH = 162.0  CONS = WALL_CON
* 145 *           AZIMUTH = 135 ..
* 146 *
* 147 * WINDOW HEIGHT = 4.0  WIDTH = 11.0  G-T = G_TYPE1
* 148 *           MULTIPLIER = 4.0 ..
* 149 *
* 150 * WINDOW HEIGHT = 4.0  WIDTH = 4.0  G-T = G_TYPE1
* 151 *           MULTIPLIER = 2.0 ..
* 152 *
* 153 * WINDOW HEIGHT = 4.0  WIDTH = 3.0  G-T = G_TYPE1
* 154 *           MULTIPLIER = 2.0 ..
* 155 *
* 156 * WINDOW HEIGHT = 11.0  WIDTH = 12.0  G-T = G_TYPE1 ..
* 157 *
* 158 * WINDOW HEIGHT = 7.5  WIDTH = 7.5  G-T = G_TYPE1 ..
* 159 *
* 160 * E-W      HEIGHT = 9.0  WIDTH = 126.0  CONS = WALL_CON
* 161 *           AZIMUTH = 225 ..
* 162 *
* 163 * WINDOW HEIGHT = 4.0  WIDTH = 5.0  G-T = G_TYPE1
* 164 *           MULTIPLIER = 4.0 ..
* 165 *
* 166 * WINDOW HEIGHT = 4.0  WIDTH = 4.0  G-T = G_TYPE1
* 167 *           MULTIPLIER = 8.0 ..
* 168 *
* 169 * E-W      HEIGHT = 9.0  WIDTH = 162.0  CONS = WALL_CON
* 170 *           AZIMUTH = 315 ..
* 171 *
* 172 * DOOR      HEIGHT = 7.5  WIDTH = 3.0  CONS = DOOR_CON
* 173 *           MULTIPLIER = 2.0 ..
* 174 *
* 175 * WINDOW HEIGHT = 4.0  WIDTH = 4.0  G-T = G_TYPE1
* 176 *           MULTIPLIER = 4.0 ..
* 177 *
* 178 * WINDOW HEIGHT = 5.3  WIDTH = 5.3  G-T = G_TYPE1 ..
* 179 *
* 180 *
* 181 * END ..
* 182 * COMPUTE LOADS ..
* 183 *
* 184 * INPUT SYSTEMS ..

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SDL PROCESSOR INPUT DATA

3/18/1995 17:49:16 SDL RUN 1

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\$-----\$  
\$EZ - DOE SYSTEMS INPUT \$  
\$-----\$

\$ GENERAL PROJECT DATA

TITLE LINE-1 \* EMC ENGINEERS INC. \*  
LINE-2 \*EZDOE - ELITE SOFTWARE DEVELOPMENT INC\*  
LINE-3 \* DENVER, CO 80227 \*  
LINE-4 \*BUILDING 10506, TROOP MEDICAL CLINIC \*  
LINE-5 \*SETBACK, DDC, AND FORCED VENTILATION \* ..  
ABORT ERRORS ..  
DIAGNOSTIC WARNINGS ..  
SYSTEMS-REPORT SUMMARY=(SS-A,SS-C,SS-F,SS-K,SS-O) ..

\$ SCHEDULES

FULL\_ON\_D =DAY-SCHEDULE (1,24) (1.) ..  
FULL\_OFF\_D =DAY-SCHEDULE (1,24) (0.) ..  
HEAT\_68\_D =DAY-SCHEDULE (1,24) (68.) ..  
COOL\_72\_D =DAY-SCHEDULE (1,24) (72.) ..  
HEAT\_55\_D =DAY-SCHEDULE (1,24) (55.) ..  
FAN\_SB\_D =DAY-SCHEDULE (1,5) (0.)  
(6,16) (1.)  
(17,24) (0.) ..  
HT\_W\_SB\_D =DAY-SCHEDULE (1,5) (50.)  
(6,16) (68.)  
(17,24) (55.) ..  
CL\_W\_SB\_D =DAY-SCHEDULE (1,5) (85.)  
(6,16) (78.)  
(17,24) (85.) ..  
50\_D =DAY-SCHEDULE (1,24) (50.) ..  
85\_D =DAY-SCHEDULE (1,24) (85.) ..  
MINOA\_FV\_D =DAY-SCHEDULE (1,6) (0.)  
(7,16) (0.21)  
(17,24) (0.) ..  
FULL\_ON\_W =WEEK-SCHEDULE (ALL) FULL\_ON\_D ..  
FULL\_OFF\_W =WEEK-SCHEDULE (ALL) FULL\_OFF\_D ..  
HEAT\_68\_W =WEEK-SCHEDULE (ALL) HEAT\_68\_D ..  
COOL\_72\_W =WEEK-SCHEDULE (ALL) COOL\_72\_D ..  
FAN\_SB\_W =WEEK-SCHEDULE (WD) FAN\_SB\_D  
(SAT) FAN\_SB\_D  
(SUN) FULL\_OFF\_D  
(HOL) FAN\_SB\_D ..  
HT\_W\_SB\_W =WEEK-SCHEDULE (WD) HT\_W\_SB\_D  
(SAT) HT\_W\_SB\_D  
(SUN) 50\_D  
(HOL) HT\_W\_SB\_D ..  
CL\_W\_SB\_W =WEEK-SCHEDULE (WD) CL\_W\_SB\_D  
(SAT) CL\_W\_SB\_D  
(SUN) 85\_D  
(HOL) CL\_W\_SB\_D ..  
MINOA\_FV\_W =WEEK-SCHEDULE (ALL) MINOA\_FV\_D ..

\$ FULL ON SCHEDULE  
FULL\_ON =SCHEDULE THRU DEC 31 FULL\_ON\_W ..  
\$ FULL OFF SCHEDULE  
FULL\_OFF =SCHEDULE THRU DEC 31 FULL\_OFF\_W ..  
\$ FORCED VENTILATION  
MINOA\_FV =SCHEDULE THRU DEC 31 MINOA\_FV\_W ..  
\$ COOLING SCHEDULE 72 F  
COOL\_72\_Y =SCHEDULE THRU DEC 31 COOL\_72\_W ..  
FAN\_SB =SCHEDULE THRU DEC 31 FAN\_SB\_W ..  
HT\_W\_SB =SCHEDULE THRU DEC 31 HT\_W\_SB\_W ..  
CL\_W\_SB =SCHEDULE THRU DEC 31 CL\_W\_SB\_W ..  
MIN\_OA\_FV =SCHEDULE THRU DEC 31 MINOA\_FV\_W ..

\$ ZONE DESCRIPTION

WHOLE\_BLDG =ZONE DESIGN-HEAT-T = 68.0 DESIGN-COOL-T = 78.0  
HEAT-TEMP-SCH = HT\_W\_SB COOL-TEMP-SCH = CL\_W\_SB  
ZONE-TYPE = CONDITIONED  
THERMOSTAT-TYPE = PROPORTIONAL THROTTLING-RANGE = 1.0  
BASEBOARD-CTRL = THERMOSTATIC  
BASEBOARD-RATING = -10000000. ASSIGNED-CFM = 11500.  
OUTSIDE-AIR-CFM = 2440. SIZING-OPTION = FROM-LOADS  
RATED-CFM = 11500.0 MIN-CFM-RATIO = 0.84  
EXHAUST-CFM = 2440.0 HEATING-CAPACITY = -449500.0  
COOLING-CAPACITY = 453900.0 ..

```

* 282 *
* 283 *
* 284 *           $ SYSTEM DESCRIPTION
* 285 *
* 286 * AHU_1      =SYSTEM      SYSTEM-TYPE = PMZS
* 287 *                                MAX-SUPPLY-T = 75.0  MIN-SUPPLY-T = 55.0
* 288 *                                MIN-HUMIDITY = 30.0  ECONO-LIMIT-T = 65.0
* 289 *                                ECONO-LOW-LIMIT = 55.0  COOL-CONTROL = WARMEST
* 290 *                                SUPPLY-CFM = 11500.  RETURN-CFM = 6860.
* 291 *                                RATED-CFM = 11550.  MIN-AIR-SCH = MINOA_FV
* 292 *                                MAX-OA-FRACTION = 0.21  FAN-SCHEDULE = FAN_SB
* 293 *                                FAN-CONTROL = INLET  SUPPLY-DELTA-T = 2.1
* 294 *                                SUPPLY-KW = 0.00049
* 295 *                                MOTOR-PLACEMENT = OUTSIDE-AIRFLOW
* 296 *                                NIGHT-CYCLE-CTRL = CYCLE-ON-ANY
* 297 *                                RETURN-STATIC = 1.25  RETURN-EFF = 1.0
* 298 *                                MIN-CFM-RATIO = 0.81  COOLING-CAPACITY = 453900.
* 299 *                                COOLING-EIR = 0.33  HEATING-CAPACITY = -449500.
* 300 *                                FURNACE-AUX = 0.  CRANKCASE-MAX-T = 0.
* 301 *                                OUTSIDE-FAN-T = 45.  HEAT-SOURCE = HOT-WATER
* 302 *                                BASEBOARD-SOURCE = HOT-WATER
* 303 *                                ZONE-NAMES = (WHOLE_BLDG) ..
* 304 *
* 305 * END ..
* 306 * COMPUTE SYSTEMS ..
* 307 *
* 308 * INPUT PLANT ..

```

PDL PROCESSOR INPUT DATA

3/18/1995 17:49:16 PDL RUN 1

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* 309 *
* 310 *
* 311 *      $-----$
* 312 *      $EZ - DOE PLANTS INPUT $
* 313 *      $-----$
* 314 *
* 315 *      $ GENERAL PROJECT DATA
* 316 *
* 317 * TITLE LINE-1 *      EMC      ENGINEERS      INC.      *
* 318 *      LINE-2 *EZDOE - ELITE SOFTWARE DEVELOPMENT INC*
* 319 *      LINE-3 *      DENVER,      CO      80227      *
* 320 *
* 321 *      LINE-4 *BUILDING 10506, TROOP MEDICAL CLINIC      *
* 322 *      LINE-5 *SETBACK, DDC, AND FORCED VENTILATION      * ..
* 323 *
* 324 * ABORT      ERRORS ..
* 325 * DIAGNOSTIC      WARNINGS ..
* 326 * PLANT-REPORT      SUMMARY=(PS-A,PS-B,BEPS)
* 327 * ..
* 328 *
* 329 *      $ SCHEDULES
* 330 *
* 331 * FULL_ON_D =DAY-SCHEDULE (1,24) (1.) ..
* 332 *
* 333 *
* 334 * FULL_ON_W =WEEK-SCHEDULE (ALL) FULL_ON_D ..
* 335 *
* 336 *
* 337 * $ FULL ON SCHEDULE
* 338 * FULL_ON =SCHEDULE THRU DEC 31 FULL_ON_W ..
* 339 *
* 340 *
* 341 *
* 342 *      $ EQUIPMENT DESCRIPTION
* 343 *
* 344 * HX      =PLANT-EQUIPMENT TYPE = HTANK-STORAGE
* 345 *      SIZE = 0.5 ..
* 346 *
* 347 * PLANT-PARAMETERS      OPEN-REC-COND-TYPE = AIR      OPEN-CENT-COND-PWR = 0.13
* 348 *      OPEN-REC-COND-PWR = 0.19      HCIRC-HEAD = 22.0      ..
* 349 *
* 350 *
* 351 * ENERGY-RESOURCE      RESOURCE = ELECTRICITY ..
* 352 * ENERGY-RESOURCE      RESOURCE = STEAM      SOURCE-SITE-EFF = 1.000 ..
* 353 *
* 354 * ENERGY-STORAGE      HEAT-STORE-RATE = 0.46      HEAT-SUPPLY-RATE = 0.46
* 355 *      HTANK-BASE-T = 195.0      HTANK-T-RANGE = 50.0
* 356 *      HEAT-STORE-SCH = FULL_ON      ..
* 357 *
* 358 *      HEAT-RECOVERY
* 359 *      SUPPLY-1 = (HTANK-STORAGE)
* 360 *      DEMAND-1 = (SPACE-HEAT,PROCESS-HEAT) ..
* 361 *
* 362 *
* 363 *
* 364 * END ..
* 365 * COMPUTE PLANT ..
* 366 * STOP ..

```

ENERGY TYPE IN SITE MBTU-	STEAM	ELECTRICITY
CATEGORY OF USE		
SPACE HEAT	826.35	30.55
SPACE COOL	0.00	14.39
HVAC AUX	0.00	66.81
DOM HOT WTR	200.01	0.00
AUX SOLAR	0.00	0.00
LIGHTS	0.00	53.25
VERT TRANS	0.00	0.00
MISC EQUIP	0.00	14.19
	-----	-----
TOTAL	1,026.36	179.19

TOTAL SITE ENERGY 1205.55 MBTU 73.6 KBTU/SQFT-YR GROSS-AREA 73.6 KBTU/SQFT-YR NET-AREA  
 TOTAL SOURCE ENERGY 1564.47 MBTU 95.5 KBTU/SQFT-YR GROSS-AREA 95.5 KBTU/SQFT-YR NET-AREA

PERCENT OF HOURS ANY SYSTEM ZONE OUTSIDE OF THROTTLING RANGE = 0.0  
 PERCENT OF HOURS ANY PLANT LOAD NOT SATISFIED = 0.0

NOTE ELECTRICITY AND/OR FUEL USED TO GENERATE ELECTRICITY IS APPORTIONED BASED  
 ON THE YEARLY DEMAND. ALL OTHER ENERGY TYPES ARE APPORTIONED HOURLY.

MO	UTILITY-	STEAM	ELECTRICITY
	TOTAL (MBTU)	187.457	22.875
JAN	PEAK (KBTU)	1063.092	133.109
	DY/HR	24/ 6	8/ 7
	TOTAL (MBTU)	144.918	17.493
FEB	PEAK (KBTU)	995.985	136.663
	DY/HR	14/ 6	5/ 7
	TOTAL (MBTU)	144.675	18.122
MAR	PEAK (KBTU)	924.887	128.477
	DY/HR	28/ 6	26/ 7
	TOTAL (MBTU)	89.579	13.764
APR	PEAK (KBTU)	700.636	107.843
	DY/HR	4/ 6	2/16
	TOTAL (MBTU)	54.933	12.555
MAY	PEAK (KBTU)	586.058	76.925
	DY/HR	16/ 6	21/ 7
	TOTAL (MBTU)	22.636	11.026
JUN	PEAK (KBTU)	251.473	76.330
	DY/HR	8/ 6	11/ 7
	TOTAL (MBTU)	18.136	13.719
JUL	PEAK (KBTU)	115.616	117.598
	DY/HR	25/ 6	16/16
	TOTAL (MBTU)	19.782	11.989
AUG	PEAK (KBTU)	156.630	108.064
	DY/HR	25/ 6	6/16
	TOTAL (MBTU)	32.237	11.795
SEP	PEAK (KBTU)	335.875	133.703
	DY/HR	24/ 6	3/16
	TOTAL (MBTU)	61.507	13.470
OCT	PEAK (KBTU)	481.571	87.814
	DY/HR	28/ 6	29/ 7
	TOTAL (MBTU)	101.984	13.278
NOV	PEAK (KBTU)	866.830	124.959
	DY/HR	28/ 6	26/16
	TOTAL (MBTU)	148.522	19.104
DEC	PEAK (KBTU)	914.135	130.136
	DY/HR	26/ 6	3/ 7
	ONE YEAR	1026.365	179.189
	USE/PEAK	1063.092	136.663

**COMPUTER SIMULATIONS**

BUILDING 10522

**COMPUTER SIMULATIONS**  
**BUILDING 10522**

**BASE RUN**



# LDL PROCESSOR INPUT DATA

3/19/1995 11:27:45 LDL RUN 1

```

* 3 *
* 4 *
* 5 *      $-----$
* 6 *      $EZ-DOE LOADS INPUT$
* 7 *      $-----$
* 8 *
* 9 *      $ GENERAL PROJECT DATA
* 10 *
* 11 * TITLE LINE-1 * EMC ENGINEERS INC. *
* 12 * LINE-2 *EZDOE - ELITE SOFTWARE DEVELOPMENT INC*
* 13 * LINE-3 * DENVER, CO 80227 *
* 14 *
* 15 * LINE-4 *BUILDING 10522 ENL PERS BRKS W/CA&S *
* 16 * LINE-5 *BASE MODEL *..
* 17 *
* 18 * ABORT ERRORS ..
* 19 * DIAGNOSTIC WARNINGS ..
* 20 * LOADS-REPORT SUMMARY=(LS-A,LS-B,LS-C,LS-D,LS-E,LS-F,LS-G,
* 21 * LS-H,LS-I,LS-J,LS-K,LS-L) ..
* 22 * BUILDING-LOCATION LATITUDE = 44.0
* 23 * ALTITUDE = 655.
* 24 * AZIMUTH = -40.
* 25 * GROSS-AREA = 11544
* 26 * HOLIDAY = NO
* 27 * SHIELDING-COEF = 0.19
* 28 * X-REF = 0.0
* 29 * Y-REF = 0.0 ..
* 30 * RUN-PERIOD JAN 1 1994 THRU DEC 31 1994 ..
* 31 *
* 32 *
* 33 *      $ SCHEDULES
* 34 *
* 35 * FULL_OND =DAY-SCHEDULE (1,24) (1.) ..
* 36 *
* 37 * FULL_OFFD =DAY-SCHEDULE (1,24) (0.) ..
* 38 *
* 39 * PEOP_D_ADM =DAY-SCHEDULE (1,6) (0.)
* 40 * (7,10) (1.)
* 41 * (11,13) (0.8,0.4,0.8)
* 42 * (14,16) (1.)
* 43 * (17,21) (0.1)
* 44 * (22,24) (0.) ..
* 45 *

```

\* 46 \* EQP\_D\_ADM =DAY-SCHEDULE (1,2) (0.1)  
 \* 47 \* (3,6) (0.)  
 \* 48 \* (7,8) (0.3)  
 \* 49 \* (9,12) (0.2)  
 \* 50 \* (13) (0.3)  
 \* 51 \* (14,15) (0.1)  
 \* 52 \* (16) (0.2)  
 \* 53 \* (17,18) (0.3)  
 \* 54 \* (19,21) (0.7,1.,0.7)  
 \* 55 \* (22,24) (0.1) ..  
 \* 56 \*  
 \* 57 \* LT\_OND\_ADM =DAY-SCHEDULE (1,4) (0.)  
 \* 58 \* (5,6) (0.1)  
 \* 59 \* (7,8) (0.2)  
 \* 60 \* (9,13) (0.8)  
 \* 61 \* (14) (0.7)  
 \* 62 \* (15,16) (0.6)  
 \* 63 \* (17,18) (0.4,0.3)  
 \* 64 \* (19,24) (0.) ..  
 \* 65 \*  
 \* 66 \* LGHT\_D\_BRK =DAY-SCHEDULE (1,2) (0.1)  
 \* 67 \* (3,4) (0.)  
 \* 68 \* (5,6) (0.3)  
 \* 69 \* (7,8) (0.5)  
 \* 70 \* (9,10) (0.3)  
 \* 71 \* (11,12) (0.4)  
 \* 72 \* (13,16) (0.3)  
 \* 73 \* (17,18) (0.4)  
 \* 74 \* (19,20) (0.6)  
 \* 75 \* (21,22) (0.7)  
 \* 76 \* (23,24) (0.3) ..  
 \* 77 \*  
 \* 78 \* PEOP\_D\_BRK =DAY-SCHEDULE (1,5) (1.)  
 \* 79 \* (6,7) (0.8,0.5)  
 \* 80 \* (8,11) (0.1)  
 \* 81 \* (12,13) (0.2)  
 \* 82 \* (14,15) (0.1)  
 \* 83 \* (16,18) (0.4)  
 \* 84 \* (19,20) (0.6)  
 \* 85 \* (21) (0.8)  
 \* 86 \* (22,24) (1.) ..  
 \* 87 \*  
 \* 88 \* EQP\_D\_BRK =DAY-SCHEDULE (1) (0.2)  
 \* 89 \* (2,5) (0.1)  
 \* 90 \* (6,8) (0.3)  
 \* 91 \* (9) (0.2)  
 \* 92 \* (10,11) (0.1)  
 \* 93 \* (12,13) (0.3)  
 \* 94 \* (14,16) (0.2)  
 \* 95 \* (17,18) (0.5)

\* 96 \* (19,20) (0.7)  
 \* 97 \* (21,22) (0.8)  
 \* 98 \* (23,24) (0.7,0.5) ..  
 \* 99 \*  
 \* 100 \* PEOP\_D\_COR =DAY-SCHEDULE (1,5) (0.)  
 \* 101 \* (6,7) (0.3,0.5)  
 \* 102 \* (8,11) (0.1)  
 \* 103 \* (12,13) (0.2)  
 \* 104 \* (14,15) (0.1)  
 \* 105 \* (16,18) (0.4)  
 \* 106 \* (19,22) (0.6,0.7,1.,0.9)  
 \* 107 \* (23,24) (0.8,0.5) ..  
 \* 108 \*  
 \* 109 \* HALF\_FAN\_D =DAY-SCHEDULE (1,24) (0.5) ..  
 \* 110 \*  
 \* 111 \* MAX\_FAN\_D =DAY-SCHEDULE (1,11) (0.5)  
 \* 112 \* (12,21) (1.)  
 \* 113 \* (22,24) (0.5) ..  
 \* 114 \*  
 \* 115 \* DHW\_D1 =DAY-SCHEDULE (1,5) (0.)  
 \* 116 \* (6,9) (1.)  
 \* 117 \* (10,20) (0.)  
 \* 118 \* (21,22) (1.)  
 \* 119 \* (23,24) (0.) ..  
 \* 120 \*  
 \* 121 \* DHW\_D2 =DAY-SCHEDULE (1,5) (0.)  
 \* 122 \* (6,8) (1.)  
 \* 123 \* (9,20) (0.)  
 \* 124 \* (21,22) (1.,0.69)  
 \* 125 \* (23,24) (0.) ..  
 \* 126 \*  
 \* 127 \* DHW\_D3 =DAY-SCHEDULE (1,5) (0.)  
 \* 128 \* (6,8) (1.)  
 \* 129 \* (9,20) (0.)  
 \* 130 \* (21,22) (1.,0.86)  
 \* 131 \* (23,24) (0.) ..  
 \* 132 \*  
 \* 133 \* DHW\_D4 =DAY-SCHEDULE (1,5) (0.)  
 \* 134 \* (6,8) (1.)  
 \* 135 \* (9,20) (0.)  
 \* 136 \* (21,22) (1.,0.56)  
 \* 137 \* (23,24) (0.) ..  
 \* 138 \*  
 \* 139 \* DHW\_D5 =DAY-SCHEDULE (1,5) (0.)  
 \* 140 \* (6,8) (1.)  
 \* 141 \* (9,20) (0.)  
 \* 142 \* (21,22) (1.,0.15)  
 \* 143 \* (23,24) (0.) ..  
 \* 144 \*  
 \* 145 \* DHW\_D6 =DAY-SCHEDULE (1,5) (0.)

\* 146 \* (6,8) (1.)  
 \* 147 \* (9,20) (0.)  
 \* 148 \* (21) (0.95)  
 \* 149 \* (22,24) (0.) ..  
 \* 150 \*  
 \* 151 \* DHW\_D7 =DAY-SCHEDULE (1,5) (0.)  
 \* 152 \* (6,8) (1.)  
 \* 153 \* (9,20) (0.)  
 \* 154 \* (21,22) (1.)  
 \* 155 \* (23) (0.21)  
 \* 156 \* (24) (0.) ..  
 \* 157 \*  
 \* 158 \* DHW\_D8 =DAY-SCHEDULE (1,5) (0.)  
 \* 159 \* (6,8) (1.)  
 \* 160 \* (9,20) (0.)  
 \* 161 \* (21,22) (1.,0.07)  
 \* 162 \* (23,24) (0.) ..  
 \* 163 \*  
 \* 164 \* EQ\_WINT\_D =DAY-SCHEDULE (1) (0.2)  
 \* 165 \* (2,5) (0.1)  
 \* 166 \* (6,8) (0.3)  
 \* 167 \* (9) (0.2)  
 \* 168 \* (10,11) (0.1)  
 \* 169 \* (12,13) (0.3)  
 \* 170 \* (14,15) (0.2)  
 \* 171 \* (16,17) (0.8)  
 \* 172 \* (18,23) (1.)  
 \* 173 \* (24) (0.8) ..  
 \* 174 \*  
 \* 175 \*  
 \* 176 \* FULL\_ONW =WEEK-SCHEDULE (ALL) FULL\_OND ..  
 \* 177 \*  
 \* 178 \* FULL\_OFFW =WEEK-SCHEDULE (ALL) FULL\_OFFD ..  
 \* 179 \*  
 \* 180 \* LT\_ONW\_ADM =WEEK-SCHEDULE (WD) LT\_OND\_ADM  
 \* 181 \* (WEH) FULL\_OFFD ..  
 \* 182 \*  
 \* 183 \* PEOP\_W\_ADM =WEEK-SCHEDULE (WD) PEOP\_D\_ADM  
 \* 184 \* (WEH) FULL\_OFFD ..  
 \* 185 \*  
 \* 186 \* EQP\_W\_ADM =WEEK-SCHEDULE (WD) EQP\_D\_ADM  
 \* 187 \* (WEH) FULL\_OFFD ..  
 \* 188 \*  
 \* 189 \* LGHT\_W\_BRK =WEEK-SCHEDULE (ALL) LGHT\_D\_BRK ..  
 \* 190 \*  
 \* 191 \* PEOP\_W\_BRK =WEEK-SCHEDULE (ALL) PEOP\_D\_BRK ..  
 \* 192 \*  
 \* 193 \* EQP\_W\_BRK =WEEK-SCHEDULE (ALL) EQP\_D\_BRK ..  
 \* 194 \*  
 \* 195 \* PEOP\_W\_COR =WEEK-SCHEDULE (ALL) PEOP\_D\_COR ..

\* 196 \*  
 \* 197 \* HALF\_FAN\_W =WEEK-SCHEDULE (ALL) HALF\_FAN\_D ..  
 \* 198 \*  
 \* 199 \* MAX\_FAN\_W =WEEK-SCHEDULE (ALL) MAX\_FAN\_D ..  
 \* 200 \*  
 \* 201 \* WINT\_INF\_W =WEEK-SCHEDULE (ALL) EQ\_WINT\_D ..  
 \* 202 \*  
 \* 203 \* DHW\_W1 =WEEK-SCHEDULE (ALL) DHW\_D1 ..  
 \* 204 \*  
 \* 205 \* DHW\_W2 =WEEK-SCHEDULE (ALL) DHW\_D2 ..  
 \* 206 \*  
 \* 207 \* DHW\_W3 =WEEK-SCHEDULE (ALL) DHW\_D3 ..  
 \* 208 \*  
 \* 209 \* DHW\_W4 =WEEK-SCHEDULE (ALL) DHW\_D4 ..  
 \* 210 \*  
 \* 211 \* DHW\_W5 =WEEK-SCHEDULE (ALL) DHW\_D5 ..  
 \* 212 \*  
 \* 213 \* DHW\_W6 =WEEK-SCHEDULE (ALL) DHW\_D6 ..  
 \* 214 \*  
 \* 215 \* DHW\_W7 =WEEK-SCHEDULE (ALL) DHW\_D7 ..  
 \* 216 \*  
 \* 217 \* DHW\_W8 =WEEK-SCHEDULE (ALL) DHW\_D8 ..  
 \* 218 \*  
 \* 219 \* EQ\_WINT\_W =WEEK-SCHEDULE (ALL) EQ\_WINT\_D ..  
 \* 220 \*  
 \* 221 \*  
 \* 222 \* \$ FULL ON SCHEDULE  
 \* 223 \* FULL\_ONY =SCHEDULE THRU DEC 31 FULL\_ONW ..  
 \* 224 \*  
 \* 225 \* \$ FULL OFF SCHEDULE  
 \* 226 \* FULL\_OFFY =SCHEDULE THRU DEC 31 FULL\_OFFW ..  
 \* 227 \*  
 \* 228 \* \$ LIGHTING SCHED ADMIN  
 \* 229 \* LGHT\_Y\_ADM =SCHEDULE THRU DEC 31 LT\_ONW\_ADM ..  
 \* 230 \*  
 \* 231 \* \$ OCCUPANCY SCHED ADMIN  
 \* 232 \* PEOP\_Y\_ADM =SCHEDULE THRU DEC 31 PEOP\_W\_ADM ..  
 \* 233 \*  
 \* 234 \* \$ EQUIPMENT SCHED ADMIN  
 \* 235 \* EQP\_Y\_ADM =SCHEDULE THRU DEC 31 EQP\_W\_ADM ..  
 \* 236 \*  
 \* 237 \* \$ LIGHTING SCHED BARRACKS  
 \* 238 \* LGHT\_Y\_BRK =SCHEDULE THRU DEC 31 LGHT\_W\_BRK ..  
 \* 239 \*  
 \* 240 \* \$ OCCUPANCY SCHED BARRACK  
 \* 241 \* PEOP\_Y\_BRK =SCHEDULE THRU DEC 31 PEOP\_W\_BRK ..  
 \* 242 \*  
 \* 243 \* \$ EQUIPMENT SCHED BARRACK  
 \* 244 \* EQP\_Y\_BRK =SCHEDULE THRU FEB 28 EQ\_WINT\_W  
 \* 245 \* THRU DEC 1 EQP\_W\_BRK

\* 246 \*           THRU DEC 31 EQ\_WINT\_W ..  
 \* 247 \*  
 \* 248 \* \$ OCCUP, CORE AREA OF BRK  
 \* 249 \* PEOP\_Y\_COR =SCHEDULE THRU DEC 31 PEOP\_W\_COR ..  
 \* 250 \*  
 \* 251 \* \$ VENTILATION\_SCHED  
 \* 252 \* VENT\_SCHED =SCHEDULE THRU JUN 20 FULL\_OFFW  
 \* 253 \*           THRU JUN 25 HALF\_FAN\_W  
 \* 254 \*           THRU JUL 4 MAX\_FAN\_W  
 \* 255 \*           THRU AUG 20 HALF\_FAN\_W  
 \* 256 \*           THRU DEC 31 FULL\_OFFW ..  
 \* 257 \*  
 \* 258 \* \$ INFILTRATION SCHEDULE  
 \* 259 \* INFL\_SCHED =SCHEDULE THRU DEC 31 FULL\_ONW ..  
 \* 260 \*  
 \* 261 \* \$ DHW SCHEDULE  
 \* 262 \* DHW\_SCHED =SCHEDULE THRU MAR 1 DHW\_W1  
 \* 263 \*           THRU MAY 1 DHW\_W2  
 \* 264 \*           THRU JUN 1 DHW\_W3  
 \* 265 \*           THRU AUG 1 DHW\_W4  
 \* 266 \*           THRU SEP 1 DHW\_W5  
 \* 267 \*           THRU OCT 1 DHW\_W6  
 \* 268 \*           THRU NOV 1 DHW\_W7  
 \* 269 \*           THRU DEC 1 DHW\_W8  
 \* 270 \*           THRU DEC 31 DHW\_W1 ..  
 \* 271 \*  
 \* 272 \*  
 \* 273 \*  
 \* 274 \*           \$ CONSTRUCTION TYPES  
 \* 275 \*  
 \* 276 \* WALLP\_1 =WALL-PARAMETERS FOR INTERIOR-WALL  
 \* 277 \*           CHANNEL-WIDTH = 0.33  
 \* 278 \*           AIR-FLOW-TYPE = FREE-DOORWAY  
 \* 279 \*           AIR-FLOW-CTRL-DT = 3.00  
 \* 280 \*           DOORWAY-W = 7.00 ..  
 \* 281 \*  
 \* 282 \*  
 \* 283 \* DOORCON =CONSTRUCTION U-VALUE = 1.130 ..  
 \* 284 \* ROOFCON =CONSTRUCTION U-VALUE = 0.050 ..  
 \* 285 \* EXWALL =CONSTRUCTION U-VALUE = 0.200 ..  
 \* 286 \* FLOORCON =CONSTRUCTION U-VALUE = 0.100 ..  
 \* 287 \* INWALL =CONSTRUCTION U-VALUE = 0.500  
 \* 288 \*           WALL-PARAMETERS = WALLP\_1 ..  
 \* 289 \*  
 \* 290 \* SKYLIGHT =GLASS-TYPE GLASS-TYPE-CODE = 5  
 \* 291 \*           PANES = 2  
 \* 292 \*           GLASS-CONDUCTANCE = 0.490 ..  
 \* 293 \* WNDW =GLASS-TYPE GLASS-TYPE-CODE = 4  
 \* 294 \*           PANES = 1  
 \* 295 \*           GLASS-CONDUCTANCE = 1.130 ..

\*296 \* DOORGLSS =GLASS-TYPE GLASS-TYPE-CODE = 3  
 \*297 \* PANES = 1  
 \*298 \* GLASS-CONDUCTANCE = 1.130 ..  
 \*299 \*  
 \*300 \*  
 \*301 \*  
 \*302 \*  
 \*303 \* \$ SPACE DESCRIPTION  
 \*304 \*  
 \*305 \* ADMIN\_LEFT =SPACE AREA = 4740.0 VOLUME = 42660.0  
 \*306 \* AZIMUTH = 270 ZONE-TYPE = CONDITIONED  
 \*307 \* PEOPLE-SCHEDULE = PEOP\_Y\_ADM NUMBER-OF-PEOPLE = 33.0  
 \*308 \* PEOPLE-HEAT-GAIN = 475.0  
 \*309 \* LIGHTING-TYPE = REC-FLUOR-RV LIGHTING-KW = 5.44  
 \*310 \* LIGHTING-SCHEDULE = LGHT\_Y\_ADM  
 \*311 \* EQUIP-SCHEDULE = EQP\_Y\_ADM EQUIPMENT-KW = 3.16  
 \*312 \* INF-METHOD = AIR-CHANGE AIR-CHANGES/HR = 0.1  
 \*313 \* INF-SCHEDULE = INFL\_SCHED ..  
 \*314 \*  
 \*315 \* ROOF HEIGHT = 60.0 WIDTH = 79.0 CONS = ROOFCON  
 \*316 \* AZIMUTH = 270 TILT = 0 ..  
 \*317 \*  
 \*318 \* U-W HEIGHT = 60.0 WIDTH = 79.0 CONS = FLOORCON  
 \*319 \* AZIMUTH = 270 ..  
 \*320 \*  
 \*321 \* E-W HEIGHT = 10.0 WIDTH = 60.0 CONS = EXWALL  
 \*322 \* AZIMUTH = 180 ..  
 \*323 \*  
 \*324 \* E-W HEIGHT = 10.0 WIDTH = 79.0 CONS = EXWALL  
 \*325 \* AZIMUTH = 90 ..  
 \*326 \*  
 \*327 \* DOOR HEIGHT = 7.5 WIDTH = 3.0 CONS = DOORCON  
 \*328 \* MULTIPLIER = 9.0 ..  
 \*329 \*  
 \*330 \* WINDOW HEIGHT = 3.0 WIDTH = 3.0 G-T = WNDW  
 \*331 \* MULTIPLIER = 4.0 ..  
 \*332 \*  
 \*333 \* WINDOW HEIGHT = 5.5 WIDTH = 3.0 G-T = WNDW ..  
 \*334 \*  
 \*335 \* E-W HEIGHT = 10.0 WIDTH = 79.0 CONS = EXWALL  
 \*336 \* AZIMUTH = 270 ..  
 \*337 \*  
 \*338 \* WINDOW HEIGHT = 3.0 WIDTH = 3.0 G-T = WNDW  
 \*339 \* MULTIPLIER = 4.0 ..  
 \*340 \*  
 \*341 \* DOOR HEIGHT = 7.5 WIDTH = 3.0 CONS = DOORCON ..  
 \*342 \*  
 \*343 \*  
 \*344 \* ADMIN\_CNTR =SPACE AREA = 5230.0 VOLUME = 47070.0  
 \*345 \* AZIMUTH = 270 TEMPERATURE = (68.)

\* 346 \*        ZONE-TYPE = CONDITIONED PEOPLE-SCHEDULE = PEOP\_Y\_ADM  
 \* 347 \*        NUMBER-OF-PEOPLE = 33.0 PEOPLE-HEAT-GAIN = 475.0  
 \* 348 \*        LIGHTING-TYPE = REC-FLUOR-RV LIGHTING-KW = 5.76  
 \* 349 \*        LIGHTING-SCHEDULE = LGHT\_Y\_ADM  
 \* 350 \*        EQUIP-SCHEDULE = EQP\_Y\_ADM EQUIPMENT-KW = 3.16  
 \* 351 \*        SOURCE-SCHEDULE = VENT\_SCHED SOURCE-TYPE = ELECTRIC  
 \* 352 \*        SOURCE-BTU/HR = 31813.0 SOURCE-SENSIBLE = 0.0  
 \* 353 \*        INF-METHOD = AIR-CHANGE AIR-CHANGES/HR = 0.25  
 \* 354 \*        INF-SCHEDULE = INFL\_SCHED ..  
 \* 355 \*  
 \* 356 \*        ROOF    HEIGHT = 87.2 WIDTH = 60.0 CONS = ROOFCON  
 \* 357 \*            AZIMUTH = 270 TILT = 0 ..  
 \* 358 \*  
 \* 359 \*        U-W    HEIGHT = 87.2 WIDTH = 60.0 CONS = FLOORCON  
 \* 360 \*            AZIMUTH = 270 ..  
 \* 361 \*  
 \* 362 \*        E-W    HEIGHT = 10.0 WIDTH = 60.0 CONS = EXWALL  
 \* 363 \*            AZIMUTH = 90 ..  
 \* 364 \*  
 \* 365 \*        E-W    HEIGHT = 10.0 WIDTH = 32.0 CONS = EXWALL  
 \* 366 \*            AZIMUTH = 180 ..  
 \* 367 \*  
 \* 368 \*        E-W    HEIGHT = 10.0 WIDTH = 32.0 CONS = EXWALL  
 \* 369 \*            AZIMUTH = 0 ..  
 \* 370 \*  
 \* 371 \*        E-W    HEIGHT = 10.0 WIDTH = 49.0 CONS = EXWALL  
 \* 372 \*            AZIMUTH = 270 ..  
 \* 373 \*  
 \* 374 \*        DOOR    HEIGHT = 7.5 WIDTH = 3.0 CONS = DOORCON  
 \* 375 \*            MULTIPLIER = 3.0 ..  
 \* 376 \*  
 \* 377 \*        WINDOW HEIGHT = 3.0 WIDTH = 3.0 G-T = WNDW  
 \* 378 \*            MULTIPLIER = 3.0 ..  
 \* 379 \*  
 \* 380 \*        I-W    HEIGHT = 9.0 WIDTH = 60.0 CONS = INWALL  
 \* 381 \*            AZIMUTH = 180 NEXT-TO = ADMIN\_LEFT ..  
 \* 382 \*  
 \* 383 \*        I-W    HEIGHT = 9.0 WIDTH = 60.0 CONS = INWALL  
 \* 384 \*            NEXT-TO = ADMIN\_RGHT ..  
 \* 385 \*  
 \* 386 \*  
 \* 387 \*        ADMIN\_RGHT =SPACE    AREA = 4740.0 VOLUME = 42660.0  
 \* 388 \*            AZIMUTH = 270 TEMPERATURE = (68.)  
 \* 389 \*        ZONE-TYPE = CONDITIONED PEOPLE-SCHEDULE = PEOP\_Y\_ADM  
 \* 390 \*        NUMBER-OF-PEOPLE = 33.0 PEOPLE-HEAT-GAIN = 475.0  
 \* 391 \*        LIGHTING-TYPE = REC-FLUOR-RV LIGHTING-KW = 5.68  
 \* 392 \*        LIGHTING-SCHEDULE = LGHT\_Y\_ADM  
 \* 393 \*        EQUIP-SCHEDULE = EQP\_Y\_ADM EQUIPMENT-KW = 3.16  
 \* 394 \*        INF-METHOD = AIR-CHANGE AIR-CHANGES/HR = 0.1  
 \* 395 \*        INF-SCHEDULE = INFL\_SCHED ..



\*396\*  
 \*397\* ROOF HEIGHT = 60.0 WIDTH = 79.0 CONS = ROOFCON  
 \*398\* AZIMUTH = 270 TILT = 0 ..  
 \*399\*  
 \*400\* U-W HEIGHT = 60.0 WIDTH = 79.0 CONS = FLOORCON  
 \*401\* AZIMUTH = 270 ..  
 \*402\*  
 \*403\* E-W HEIGHT = 10.0 WIDTH = 79.0 CONS = EXWALL  
 \*404\* AZIMUTH = 90 ..  
 \*405\*  
 \*406\* DOOR HEIGHT = 7.5 WIDTH = 3.0 CONS = DOORCON  
 \*407\* MULTIPLIER = 9.0 ..  
 \*408\*  
 \*409\* WINDOW HEIGHT = 3.0 WIDTH = 3.0 G-T = WNDW  
 \*410\* MULTIPLIER = 4.0 ..  
 \*411\*  
 \*412\* WINDOW HEIGHT = 5.5 WIDTH = 3.0 G-T = WNDW ..  
 \*413\*  
 \*414\* E-W HEIGHT = 10.0 WIDTH = 60.0 CONS = EXWALL  
 \*415\* AZIMUTH = 0 ..  
 \*416\*  
 \*417\* E-W HEIGHT = 10.0 WIDTH = 60.0 CONS = EXWALL  
 \*418\* AZIMUTH = 270 ..  
 \*419\*  
 \*420\* WINDOW HEIGHT = 3.0 WIDTH = 3.0 G-T = WNDW  
 \*421\* MULTIPLIER = 4.0 ..  
 \*422\*  
 \*423\* DOOR HEIGHT = 7.5 WIDTH = 3.0 CONS = DOORCON ..  
 \*424\*  
 \*425\*  
 \*426\* BRKS\_CORE =SPACE AREA = 5392.0 VOLUME = 48528.0  
 \*427\* AZIMUTH = 270 TEMPERATURE = (68.)  
 \*428\* ZONE-TYPE = CONDITIONED PEOPLE-SCHEDULE = PEOP\_Y\_COR  
 \*429\* NUMBER-OF-PEOPLE = 40.0 PEOPLE-HEAT-GAIN = 500.0  
 \*430\* LIGHTING-TYPE = REC-FLUOR-RV LIGHTING-KW = 3.44  
 \*431\* LIGHTING-SCHEDULE = LGHT\_Y\_BRK  
 \*432\* EQUIP-SCHEDULE = PEOP\_Y\_COR EQUIPMENT-KW = 33.0  
 \*433\* EQUIP-SENSIBLE = 0.05 SOURCE-SCHEDULE = VENT\_SCHED  
 \*434\* SOURCE-TYPE = ELECTRIC SOURCE-BTU/HR = 30545.0  
 \*435\* SOURCE-SENSIBLE = 0.0 INF-METHOD = AIR-CHANGE  
 \*436\* AIR-CHANGES/HR = 0.75 INF-SCHEDULE = INFL\_SCHED ..  
 \*437\*  
 \*438\* ROOF HEIGHT = 73.4 WIDTH = 73.4 CONS = ROOFCON  
 \*439\* AZIMUTH = 45 TILT = 0 ..  
 \*440\*  
 \*441\* U-W HEIGHT = 73.4 WIDTH = 73.4 CONS = FLOORCON  
 \*442\* AZIMUTH = 45 ..  
 \*443\*  
 \*444\* E-W HEIGHT = 20.0 WIDTH = 37.5 CONS = EXWALL  
 \*445\* AZIMUTH = 135 ..

\* 446 \*  
 \* 447 \* WINDOW HEIGHT = 2.7 WIDTH = 2.6 G-T = WNDW  
 \* 448 \* MULTIPLIER = 7.0 ..  
 \* 449 \*  
 \* 450 \* E-W HEIGHT = 20.0 WIDTH = 37.5 CONS = EXWALL  
 \* 451 \* AZIMUTH = 45 ..  
 \* 452 \*  
 \* 453 \* WINDOW HEIGHT = 2.7 WIDTH = 2.6 G-T = WNDW  
 \* 454 \* MULTIPLIER = 7.0 ..  
 \* 455 \*  
 \* 456 \* DOOR HEIGHT = 7.5 WIDTH = 3.0 CONS = DOORCON  
 \* 457 \* MULTIPLIER = 2.0 ..  
 \* 458 \*  
 \* 459 \* E-W HEIGHT = 20.0 WIDTH = 10.0 CONS = EXWALL  
 \* 460 \* AZIMUTH = 270 ..  
 \* 461 \*  
 \* 462 \* WINDOW HEIGHT = 4.0 WIDTH = 4.0 G-T = WNDW ..  
 \* 463 \*  
 \* 464 \* DOOR HEIGHT = 7.5 WIDTH = 3.0 CONS = DOORCON  
 \* 465 \* MULTIPLIER = 2.0 ..  
 \* 466 \*  
 \* 467 \*  
 \* 468 \* BRKS\_RIGHT = SPACE AREA = 8840.0 VOLUME = 79560.0  
 \* 469 \* AZIMUTH = 225 TEMPERATURE = (75.)  
 \* 470 \* ZONE-TYPE = CONDITIONED PEOPLE-SCHEDULE = PEOP\_Y\_BRK  
 \* 471 \* NUMBER-OF-PEOPLE = 56.0 PEOPLE-HEAT-GAIN = 500.0  
 \* 472 \* LIGHTING-TYPE = REC-FLUOR-RV LIGHTING-KW = 6.72  
 \* 473 \* LIGHTING-SCHEDULE = LGHT\_Y\_BRK  
 \* 474 \* EQUIP-SCHEDULE = EQP\_Y\_BRK EQUIPMENT-KW = 18.2  
 \* 475 \* SOURCE-SCHEDULE = DHW\_SCHED SOURCE-TYPE = HOT-WATER  
 \* 476 \* SOURCE-BTU/HR = 86936.0 SOURCE-SENSIBLE = 0.0  
 \* 477 \* INF-METHOD = AIR-CHANGE AIR-CHANGES/HR = 1.0  
 \* 478 \* INF-SCHEDULE = INFL\_SCHED ..  
 \* 479 \*  
 \* 480 \* ROOF HEIGHT = 43.3 WIDTH = 102.0 CONS = ROOFCON  
 \* 481 \* AZIMUTH = 225 TILT = 0 ..  
 \* 482 \*  
 \* 483 \* U-W HEIGHT = 43.3 WIDTH = 102.0 CONS = FLOORCON  
 \* 484 \* AZIMUTH = 225 ..  
 \* 485 \*  
 \* 486 \* E-W HEIGHT = 20.0 WIDTH = 102.0 CONS = EXWALL  
 \* 487 \* AZIMUTH = 225 ..  
 \* 488 \*  
 \* 489 \* E-W HEIGHT = 20.0 WIDTH = 102.0 CONS = EXWALL  
 \* 490 \* AZIMUTH = 45 ..  
 \* 491 \*  
 \* 492 \* WINDOW HEIGHT = 4.0 WIDTH = 4.0 G-T = WNDW  
 \* 493 \* MULTIPLIER = 16.0 ..  
 \* 494 \*  
 \* 495 \* WINDOW HEIGHT = 4.0 WIDTH = 4.0 G-T = WNDW

\* 496 \*           MULTIPLIER = 14.0 ..  
 \* 497 \*  
 \* 498 \*       E-W   HEIGHT = 20.0 WIDTH = 43.3 CONS = EXWALL  
 \* 499 \*           AZIMUTH = 315 ..  
 \* 500 \*  
 \* 501 \*       DOOR   HEIGHT = 7.5 WIDTH = 3.0 CONS = DOORCON ..  
 \* 502 \*  
 \* 503 \*  
 \* 504 \* BRKS\_LEFT =SPACE   AREA = 8840.0 VOLUME = 120402.0  
 \* 505 \*           AZIMUTH = 315 TEMPERATURE = (75.)  
 \* 506 \*           ZONE-TYPE = CONDITIONED PEOPLE-SCHEDULE = PEOP\_Y\_BRK  
 \* 507 \*           NUMBER-OF-PEOPLE = 80.0 PEOPLE-HEAT-GAIN = 500.0  
 \* 508 \*           LIGHTING-TYPE = REC-FLUOR-RV LIGHTING-KW = 9.6  
 \* 509 \*           LIGHTING-SCHEDULE = LGHT\_Y\_BRK  
 \* 510 \*           EQUIP-SCHEDULE = EQP\_Y\_BRK EQUIPMENT-KW = 26.0  
 \* 511 \*           SOURCE-SCHEDULE = DHW\_SCHED SOURCE-TYPE = HOT-WATER  
 \* 512 \*           SOURCE-BTU/HR = 124133.0 SOURCE-SENSIBLE = 0.0  
 \* 513 \*           INF-METHOD = AIR-CHANGE AIR-CHANGES/HR = 1.0  
 \* 514 \*           INF-SCHEDULE = INFL\_SCHED ..  
 \* 515 \*  
 \* 516 \*       ROOF   HEIGHT = 49.0 WIDTH = 136.5 CONS = ROOFCON  
 \* 517 \*           AZIMUTH = 315 TILT = 0 ..  
 \* 518 \*  
 \* 519 \*       U-W   HEIGHT = 49.0 WIDTH = 136.5 CONS = FLOORCON  
 \* 520 \*           AZIMUTH = 315 ..  
 \* 521 \*  
 \* 522 \*       E-W   HEIGHT = 20.0 WIDTH = 136.5 CONS = EXWALL  
 \* 523 \*           AZIMUTH = 135 ..  
 \* 524 \*  
 \* 525 \*       WINDOW HEIGHT = 4.0 WIDTH = 4.0 G-T = WNDW  
 \* 526 \*           MULTIPLIER = 20.0 ..  
 \* 527 \*  
 \* 528 \*       E-W   HEIGHT = 20.0 WIDTH = 136.5 CONS = EXWALL  
 \* 529 \*           AZIMUTH = 315 ..  
 \* 530 \*  
 \* 531 \*       WINDOW HEIGHT = 4.0 WIDTH = 4.0 G-T = WNDW  
 \* 532 \*           MULTIPLIER = 22.0 ..  
 \* 533 \*  
 \* 534 \*       E-W   HEIGHT = 20.0 WIDTH = 49.0 CONS = EXWALL  
 \* 535 \*           AZIMUTH = 225 ..  
 \* 536 \*  
 \* 537 \*       DOOR   HEIGHT = 7.5 WIDTH = 3.0 CONS = DOORCON ..  
 \* 538 \*  
 \* 539 \*  
 \* 540 \* MECH\_ROOM =SPACE   AREA = 400.0 VOLUME = 4000.0  
 \* 541 \*           ZONE-TYPE = CONDITIONED AREA/PERSON = 100.0  
 \* 542 \*           INF-METHOD = AIR-CHANGE AIR-CHANGES/HR = 2.5  
 \* 543 \*           INF-SCHEDULE = FULL\_ONY ..  
 \* 544 \*  
 \* 545 \*       E-W   HEIGHT = 10.0 WIDTH = 20.0 CONS = EXWALL

```

* 546 *           AZIMUTH = 225 ..
* 547 *
* 548 *           DOOR HEIGHT = 7.5 WIDTH = 3.0 CONS = DOORCON
* 549 *           MULTIPLIER = 2.0 ..
* 550 *
* 551 *
* 552 * END ..
* 553 * COMPUTE LOADS ..
* 554 *
* 555 * INPUT SYSTEMS ..

```

# SDL PROCESSOR INPUT DATA

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```

* 556 *
* 557 *
* 558 *           $-----$
* 559 *           $EZ-DOE SYSTEMS INPUT$
* 560 *           $-----$
* 561 *
* 562 *           $ GENERAL PROJECT DATA
* 563 *
* 564 * TITLE LINE-1 * EMC ENGINEERS INC. *
* 565 * LINE-2 *EZDOE - ELITE SOFTWARE DEVELOPMENT INC*
* 566 * LINE-3 * DENVER, CO 80227 *
* 567 *
* 568 * LINE-4 *BUILDING 10522 ENL PERS BRKS W/CA&S *
* 569 * LINE-5 *BASE MODEL *..
* 570 * ABORT ERRORS ..
* 571 * DIAGNOSTIC WARNINGS ..
* 572 * SYSTEMS-REPORT SUMMARY=(SS-A,SS-B,SS-C,SS-F,SS-G,SS-H,SS-I,
* 573 * SS-J,SS-K,SS-L,SS-M,SS-N,SS-O) ..
* 574 *
* 575 *           $ SCHEDULES
* 576 *
* 577 * FULL_OND =DAY-SCHEDULE (1,24) (1.) ..
* 578 * FULL_OFFD =DAY-SCHEDULE (1,24) (0.) ..
* 579 * HIGH_HT_D =DAY-SCHEDULE (1,24) (74.) ..
* 580 * LOW_HT_D =DAY-SCHEDULE (1,24) (55.) ..
* 581 * BRKS_HT_D =DAY-SCHEDULE (1,24) (75.) ..
* 582 *
* 583 * FULL_ONW =WEEK-SCHEDULE (ALL) FULL_OND ..
* 584 *
* 585 * FULL_OFFW =WEEK-SCHEDULE (ALL) FULL_OFFD ..
* 586 *
* 587 * HIGH_HT_W =WEEK-SCHEDULE (ALL) HIGH_HT_D ..

```

```

* 588 *
* 589 * LOW_HT_W =WEEK-SCHEDULE (ALL) LOW_HT_D ..
* 590 *
* 591 * BARKS_HT_W =WEEK-SCHEDULE (ALL) BRKS_HT_D ..
* 592 *
* 593 *
* 594 * $ FULL ON SCHEDULE
* 595 * FULL_ONY =SCHEDULE THRU DEC 31 FULL_ONW ..
* 596 *
* 597 * $ FULL OFF SCHEDULE
* 598 * FULL_OFFY =SCHEDULE THRU DEC 31 FULL_OFFW ..
* 599 *
* 600 * $ AHU1 HEATING SCHEDULE
* 601 * HIGH_HT =SCHEDULE THRU MAY 31 HIGH_HT_W
* 602 *      THRU OCT 1 FULL_OFFW
* 603 *      THRU DEC 31 HIGH_HT_W ..
* 604 *
* 605 * $ AHU2 HEAT SCHEDULE
* 606 * LOW_HT =SCHEDULE THRU MAY 31 LOW_HT_W
* 607 *      THRU OCT 1 FULL_OFFW
* 608 *      THRU DEC 31 LOW_HT_W ..
* 609 *
* 610 * $ BARRACKS HEATING SCHED
* 611 * BRKS_HEAT =SCHEDULE THRU MAY 31 BARKS_HT_W
* 612 *      THRU OCT 1 FULL_OFFW
* 613 *      THRU DEC 31 BARKS_HT_W ..
* 614 *
* 615 *
* 616 *
* 617 *      $ ZONE DESCRIPTION
* 618 *
* 619 * ADMIN_LEFT =ZONE  DESIGN-HEAT-T = 68.0 DESIGN-COOL-T = 75.0
* 620 *      HEAT-TEMP-SCH = HIGH_HT ZONE-TYPE = CONDITIONED
* 621 *      THERMOSTAT-TYPE = PROPORTIONAL
* 622 *      BASEBOARD-CTRL = THERMOSTATIC
* 623 *      BASEBOARD-RATING = -66265. ASSIGNED-CFM = 770.
* 624 *      OUTSIDE-AIR-CFM = 770. SIZING-OPTION = FROM-LOADS
* 625 *      RATED-CFM = 770.0 MIN-CFM-RATIO = 1.0
* 626 *      EXHAUST-CFM = 770.0 HEATING-CAPACITY = -62370.0 ..
* 627 *
* 628 * ADMIN_CNTR =ZONE  DESIGN-HEAT-T = 68.0 DESIGN-COOL-T = 75.0
* 629 *      HEAT-TEMP-SCH = HIGH_HT ZONE-TYPE = CONDITIONED
* 630 *      THERMOSTAT-TYPE = PROPORTIONAL
* 631 *      BASEBOARD-CTRL = THERMOSTATIC
* 632 *      BASEBOARD-RATING = -56819. ASSIGNED-CFM = 770.
* 633 *      OUTSIDE-AIR-CFM = 770. SIZING-OPTION = FROM-LOADS
* 634 *      RATED-CFM = 770.0 MIN-CFM-RATIO = 1.0
* 635 *      EXHAUST-CFM = 770.0 HEATING-CAPACITY = -62370.0 ..
* 636 *
* 637 * ADMIN_RGHT =ZONE  DESIGN-HEAT-T = 68.0 DESIGN-COOL-T = 80.0

```

\*638\* HEAT-TEMP-SCH = BRKS\_HEAT ZONE-TYPE = CONDITIONED  
 \*639\* THERMOSTAT-TYPE = PROPORTIONAL  
 \*640\* BASEBOARD-CTRL = THERMOSTATIC  
 \*641\* BASEBOARD-RATING = -66265. ASSIGNED-CFM = 770.  
 \*642\* OUTSIDE-AIR-CFM = 770. SIZING-OPTION = FROM-LOADS  
 \*643\* RATED-CFM = 770.0 MIN-CFM-RATIO = 1.0  
 \*644\* EXHAUST-CFM = 770.0 HEATING-CAPACITY = -62370.0 ..  
 \*645\*  
 \*646\* BRKS\_CORE =ZONE DESIGN-HEAT-T = 74.0 DESIGN-COOL-T = 80.0  
 \*647\* HEAT-TEMP-SCH = HIGH\_HT ZONE-TYPE = CONDITIONED  
 \*648\* THERMOSTAT-TYPE = PROPORTIONAL  
 \*649\* BASEBOARD-CTRL = THERMOSTATIC  
 \*650\* BASEBOARD-RATING = -97709. ASSIGNED-CFM = 10.  
 \*651\* SIZING-OPTION = FROM-LOADS RATED-CFM = 10.0  
 \*652\* MIN-CFM-RATIO = 1.0 HEATING-CAPACITY = -1.0 ..  
 \*653\*  
 \*654\* BRKS\_RIGHT =ZONE DESIGN-HEAT-T = 74.0 DESIGN-COOL-T = 80.0  
 \*655\* HEAT-TEMP-SCH = BRKS\_HEAT ZONE-TYPE = CONDITIONED  
 \*656\* THERMOSTAT-TYPE = PROPORTIONAL  
 \*657\* BASEBOARD-CTRL = THERMOSTATIC  
 \*658\* BASEBOARD-RATING = -134470. ASSIGNED-CFM = 1060.  
 \*659\* OUTSIDE-AIR-CFM = 1060. SIZING-OPTION = FROM-LOADS  
 \*660\* RATED-CFM = 1060.0 MIN-CFM-RATIO = 1.0  
 \*661\* EXHAUST-CFM = 1060.0 HEATING-CAPACITY = -85860.0 ..  
 \*662\*  
 \*663\* BRKS\_LEFT =ZONE DESIGN-HEAT-T = 74.0 DESIGN-COOL-T = 80.0  
 \*664\* HEAT-TEMP-SCH = BRKS\_HEAT ZONE-TYPE = CONDITIONED  
 \*665\* THERMOSTAT-TYPE = PROPORTIONAL  
 \*666\* BASEBOARD-CTRL = THERMOSTATIC  
 \*667\* BASEBOARD-RATING = -193073. ASSIGNED-CFM = 1300.  
 \*668\* OUTSIDE-AIR-CFM = 1300. SIZING-OPTION = FROM-LOADS  
 \*669\* RATED-CFM = 1300.0 MIN-CFM-RATIO = 1.0  
 \*670\* EXHAUST-CFM = 1300.0 HEATING-CAPACITY = -105300.0 ..  
 \*671\*  
 \*672\* MECH\_ROOM =ZONE DESIGN-HEAT-T = 60.0 DESIGN-COOL-T = 80.0  
 \*673\* HEAT-TEMP-SCH = LOW\_HT ZONE-TYPE = CONDITIONED  
 \*674\* THERMOSTAT-TYPE = PROPORTIONAL  
 \*675\* BASEBOARD-CTRL = THERMOSTATIC  
 \*676\* BASEBOARD-RATING = -37899. ASSIGNED-CFM = 1230.  
 \*677\* SIZING-OPTION = FROM-LOADS RATED-CFM = 1230.0  
 \*678\* HEATING-CAPACITY = -5560.0 ..  
 \*679\*  
 \*680\*  
 \*681\* \$ SYSTEM DESCRIPTION  
 \*682\*  
 \*683\* AHU\_1 =SYSTEM SYSTEM-TYPE = HVSYS  
 \*684\* MAX-SUPPLY-T = 135.0 HEATING-SCHEDULE = HIGH\_HT  
 \*685\* MIN-HUMIDITY = 30.0 ECONO-LIMIT-T = 65.0  
 \*686\* ECONO-LOW-LIMIT = 55.0 HEAT-CONTROL = COLDEST  
 \*687\* OA-CONTROL = FIXED SUPPLY-CFM = 770.

```

* 688 *      RATED-CFM = 770. MIN-OUTSIDE-AIR = 1.0
* 689 *      SUPPLY-DELTA-T = 2.4 SUPPLY-KW = 0.00078
* 690 *      NIGHT-CYCLE-CTRL = STAY-OFF NIGHT-VENT-DT = 0.0
* 691 *      HEATING-CAPACITY = -62370. FURNACE-AUX = 0.
* 692 *      ZONE-NAMES = (ADMIN_LEFT) ..
* 693 *
* 694 * AHU_4  =SYSTEM SYSTEM-TYPE = HVSYS
* 695 *      MAX-SUPPLY-T = 135.0 HEATING-SCHEDULE = HIGH_HT
* 696 *      MIN-HUMIDITY = 30.0 ECONO-LIMIT-T = 65.0
* 697 *      ECONO-LOW-LIMIT = 55.0 HEAT-CONTROL = COLDEST
* 698 *      OA-CONTROL = FIXED SUPPLY-CFM = 770.
* 699 *      RATED-CFM = 770. MIN-OUTSIDE-AIR = 1.0
* 700 *      SUPPLY-DELTA-T = 2.4 SUPPLY-KW = 0.00078
* 701 *      NIGHT-CYCLE-CTRL = STAY-OFF NIGHT-VENT-DT = 0.0
* 702 *      HEATING-CAPACITY = -62370. FURNACE-AUX = 0.
* 703 *      ZONE-NAMES = (ADMIN_RGHT) ..
* 704 *
* 705 * AHU_5  =SYSTEM SYSTEM-TYPE = HVSYS
* 706 *      MAX-SUPPLY-T = 135.0 HEATING-SCHEDULE = BRKS_HEAT
* 707 *      MIN-HUMIDITY = 30.0 ECONO-LIMIT-T = 65.0
* 708 *      ECONO-LOW-LIMIT = 55.0 HEAT-CONTROL = COLDEST
* 709 *      OA-CONTROL = FIXED SUPPLY-CFM = 1300.
* 710 *      RATED-CFM = 1300. MIN-OUTSIDE-AIR = 1.0
* 711 *      SUPPLY-DELTA-T = 2.4 SUPPLY-KW = 0.00078
* 712 *      NIGHT-CYCLE-CTRL = STAY-OFF NIGHT-VENT-DT = 0.0
* 713 *      HEATING-CAPACITY = -105300. FURNACE-AUX = 0.
* 714 *      ZONE-NAMES = (BRKS_LEFT) ..
* 715 *
* 716 * AHU_6  =SYSTEM SYSTEM-TYPE = HVSYS
* 717 *      MAX-SUPPLY-T = 135.0 HEATING-SCHEDULE = BRKS_HEAT
* 718 *      MIN-HUMIDITY = 30.0 ECONO-LIMIT-T = 65.0
* 719 *      ECONO-LOW-LIMIT = 55.0 HEAT-CONTROL = COLDEST
* 720 *      OA-CONTROL = FIXED SUPPLY-CFM = 1060.
* 721 *      RATED-CFM = 1060. MIN-OUTSIDE-AIR = 1.0
* 722 *      SUPPLY-DELTA-T = 2.4 SUPPLY-KW = 0.00078
* 723 *      NIGHT-CYCLE-CTRL = STAY-OFF NIGHT-VENT-DT = 0.0
* 724 *      HEATING-CAPACITY = -85860. FURNACE-AUX = 0.
* 725 *      ZONE-NAMES = (BRKS_RIGHT) ..
* 726 *
* 727 * AHU_3  =SYSTEM SYSTEM-TYPE = HVSYS
* 728 *      MAX-SUPPLY-T = 135.0 HEATING-SCHEDULE = HIGH_HT
* 729 *      MIN-HUMIDITY = 30.0 ECONO-LIMIT-T = 65.0
* 730 *      ECONO-LOW-LIMIT = 55.0 HEAT-CONTROL = COLDEST
* 731 *      OA-CONTROL = FIXED SUPPLY-CFM = 10.
* 732 *      RATED-CFM = 10. MIN-OUTSIDE-AIR = 1.0
* 733 *      SUPPLY-DELTA-T = 2.4 SUPPLY-KW = 0.00078
* 734 *      NIGHT-CYCLE-CTRL = STAY-OFF NIGHT-VENT-DT = 0.0
* 735 *      HEATING-CAPACITY = -1. FURNACE-AUX = 0.
* 736 *      ZONE-NAMES = (BRKS_CORE) ..
* 737 *

```

```

* 738 * AHU_2  =SYSTEM  SYSTEM-TYPE = HVSYS
* 739 *      MAX-SUPPLY-T = 135.0 HEATING-SCHEDULE = HIGH_HT
* 740 *      MIN-HUMIDITY = 30.0 ECONO-LIMIT-T = 65.0
* 741 *      ECONO-LOW-LIMIT = 55.0 HEAT-CONTROL = COLDEST
* 742 *      OA-CONTROL = FIXED SUPPLY-CFM = 770.
* 743 *      RATED-CFM = 770. MIN-OUTSIDE-AIR = 1.0
* 744 *      SUPPLY-DELTA-T = 2.4 SUPPLY-KW = 0.00078
* 745 *      NIGHT-CYCLE-CTRL = STAY-OFF NIGHT-VENT-DT = 0.0
* 746 *      HEATING-CAPACITY = -62370. FURNACE-AUX = 0.
* 747 *      ZONE-NAMES = (ADMIN_CNTR) ..
* 748 *
* 749 * AHU_7  =SYSTEM  SYSTEM-TYPE = HVSYS
* 750 *      MAX-SUPPLY-T = 135.0 HEATING-SCHEDULE = LOW_HT
* 751 *      MIN-HUMIDITY = 30.0 ECONO-LIMIT-T = 65.0
* 752 *      ECONO-LOW-LIMIT = 55.0 HEAT-CONTROL = COLDEST
* 753 *      OA-CONTROL = FIXED SUPPLY-CFM = 1230.
* 754 *      RETURN-CFM = 1230. RATED-CFM = 1230.
* 755 *      MAX-OA-FRACTION = 0.0 SUPPLY-DELTA-T = 2.4
* 756 *      SUPPLY-KW = 0.00078 NIGHT-CYCLE-CTRL = STAY-OFF
* 757 *      NIGHT-VENT-DT = 0.0 HEATING-CAPACITY = -5560.
* 758 *      FURNACE-AUX = 0.
* 759 *      ZONE-NAMES = (MECH_ROOM) ..
* 760 *
* 761 * END ..
* 762 * COMPUTE SYSTEMS ..
* 763 *
* 764 * INPUT PLANT ..

```

# PDL PROCESSOR INPUT DATA

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```

* 765 *
* 766 *
* 767 *      $-----$
* 768 *      $EZ-DOE PLANTS INPUT$
* 769 *      $-----$
* 770 *
* 771 *      $ GENERAL PROJECT DATA
* 772 *
* 773 * TITLE LINE-1 * EMC ENGINEERS INC. *
* 774 * LINE-2 *EZDOE - ELITE SOFTWARE DEVELOPMENT INC*
* 775 * LINE-3 * DENVER, CO 80227 *
* 776 *
* 777 * LINE-4 *BUILDING 10522 ENL PERS BRKS W/CA&S *
* 778 * LINE-5 *BASE MODEL *..
* 779 *

```



```

*780 * ABORT      ERRORS ..
*781 * DIAGNOSTIC  WARNINGS ..
*782 * PLANT-REPORT SUMMARY=(PS-A,PS-B,PS-C,PS-D,PS-G,PS-H,PS-I,
*783 *           BEPS)
*784 * ..
*785 *
*786 *           $ SCHEDULES
*787 *
*788 * HE_D      =DAY-SCHEDULE (1,24) (1.) ..
*789 *
*790 * FULL_OFFD =DAY-SCHEDULE (1,24) (0.) ..
*791 *
*792 *
*793 * HE_W      =WEEK-SCHEDULE (ALL) HE_D ..
*794 *
*795 * FULL_OFFW =WEEK-SCHEDULE (ALL) FULL_OFFD ..
*796 *
*797 *
*798 * $ HEAT EXCHANGER SCHED
*799 * HE_SCHED  =SCHEDULE THRU MAY 1 HE_W
*800 *           THRU OCT 1 FULL_OFFW
*801 *           THRU DEC 31 HE_W ..
*802 *
*803 * $ DHW SCHEDULE
*804 * DHW_SCHED =SCHEDULE THRU MAY 1 FULL_OFFW
*805 *           THRU OCT 1 HE_W
*806 *           THRU DEC 31 FULL_OFFW ..
*807 *
*808 *
*809 *
*810 *           $ EQUIPMENT DESCRIPTION
*811 *
*812 * CONVERTERS =PLANT-EQUIPMENT TYPE = HTANK-STORAGE
*813 *           SIZE = 1.1 ..
*814 *
*815 * DHW        =PLANT-EQUIPMENT TYPE = HTANK-STORAGE
*816 *           SIZE = 0.2 ..
*817 *
*818 * PLANT-PARAMETERS  BOILER-FUEL = COAL MAKEUP-WTR-T = 200.
*819 *           STM-BOILER-HIR = 1.0 CCIRC-HEAD = 65.0
*820 *           HCIRC-HEAD = 65.0 ..
*821 *
*822 *
*823 * ENERGY-RESOURCE  RESOURCE = ELECTRICITY ..
*824 * ENERGY-RESOURCE  RESOURCE = STEAM SOURCE-SITE-EFF = 1.000 ..
*825 *
*826 * ENERGY-STORAGE  HEAT-STORE-RATE = 1000.0 HEAT-SUPPLY-RATE = 1000.0
*827 *           HTANK-BASE-T = 195.0 HTANK-T-RANGE = 5.0
*828 *           HEAT-STORE-SCH = HE_SCHED HTANK-ENV-T = 65.0 ..
*829 *

```

\* 830 \* HEAT-RECOVERY  
\* 831 \* SUPPLY-1 = (HTANK-STORAGE)  
\* 832 \* DEMAND-1 = (SPACE-HEAT) ..  
\* 833 \*  
\* 834 \* CONV\_ASSIG =LOAD-ASSIGNMENT TYPE = HEATING  
\* 835 \* OPERATION-MODE = RUN-ALL  
\* 836 \*  
\* 837 \* LOAD-RANGE = 1.056  
\* 838 \* PLANT-EQUIPMENT = CONVERTERS  
\* 839 \* NUMBER = 1 ..  
\* 840 \*  
\* 841 \* DHW\_ASSIGN =LOAD-ASSIGNMENT TYPE = HEATING  
\* 842 \* OPERATION-MODE = RUN-ALL  
\* 843 \*  
\* 844 \* LOAD-RANGE = 0.211  
\* 845 \* PLANT-EQUIPMENT = DHW  
\* 846 \* NUMBER = 1 ..  
\* 847 \*  
\* 848 \*  
\* 849 \*  
\* 850 \* END ..  
\* 851 \* COMPUTE PLANT ..  
\* 852 \* STOP ..

ENERGY TYPE IN SITE MBTU-	STEAM	ELECTRICITY	RECOVERED
CATEGORY OF USE			
SPACE HEAT	3610.89	0.00	0.00
SPACE COOL	0.00	0.00	0.00
HVAC AUX	0.00	164.23	0.00
DOM HOT WTR	376.90	0.00	0.00
AUX SOLAR	0.00	0.00	0.00
LIGHTS	0.00	314.64	0.00
VERT TRANS	0.00	0.00	0.00
MISC EQUIP	0.00	901.19	0.00
	<hr/>	<hr/>	<hr/>
TOTAL	3987.79	1380.06	0.00

TOTAL SITE ENERGY 5367.84 MBTU 465.0 KBTU/SQFT-YR GROSS-AREA 140.6 KBTU/SQFT-YR NET-AREA  
 TOTAL SOURCE ENERGY 8132.07 MBTU 704.4 KBTU/SQFT-YR GROSS-AREA 213.0 KBTU/SQFT-YR NET-AREA

PERCENT OF HOURS ANY SYSTEM ZONE OUTSIDE OF THROTTLING RANGE = 12.7  
 PERCENT OF HOURS ANY PLANT LOAD NOT SATISFIED = 0.0

NOTE ELECTRICITY AND/OR FUEL USED TO GENERATE ELECTRICITY IS APPORTIONED BASED  
 ON THE YEARLY DEMAND. ALL OTHER ENERGY TYPES ARE APPORTIONED HOURLY.

MO	UTILITY- STEAM	ELECTRICITY
JAN	TOTAL(MBTU)	734.73
	PEAK(KBTU)	1354.411
	DY/HR	26/ 7
FEB	TOTAL(MBTU)	589.782
	PEAK(KBTU)	1229.166
	DY/HR	4/ 6
MAR	TOTAL(MBTU)	605.3
	PEAK(KBTU)	1258.04
	DY/HR	9/ 7
APR	TOTAL(MBTU)	373.858
	PEAK(KBTU)	1129.119
	DY/HR	1/ 6
MAY	TOTAL(MBTU)	243.663
	PEAK(KBTU)	967.707
	DY/HR	3/ 7
JUN	TOTAL(MBTU)	28.938
	PEAK(KBTU)	211.069
	DY/HR	30/21
JUL	TOTAL(MBTU)	29.837
	PEAK(KBTU)	211.069
	DY/HR	31/21
AUG	TOTAL(MBTU)	27.241
	PEAK(KBTU)	211.069
	DY/HR	31/21
SEP	TOTAL(MBTU)	25.054
	PEAK(KBTU)	211.069
	DY/HR	30/ 8
OCT	TOTAL(MBTU)	284.906
	PEAK(KBTU)	987.728
	DY/HR	2/ 8
NOV	TOTAL(MBTU)	433.966
	PEAK(KBTU)	1210.553
	DY/HR	27/ 7

DEC	TOTAL(MBTU)	610.518	124.358
	PEAK(KBTU)	1244.715	353.645
	DY/HR	28/ 7	30/21
	ONE YEAR	3987.793	1380.043
	USE/PEAK	1354.411	381.268

**COMPUTER SIMULATIONS**  
**BUILDING 10522**

**RUN 1 - SCHEDULE START/STOP AND NIGHT SETBACK**

LDL PROCESSOR INPUT DATA

3/26/1995 13:56:26 LDL RUN 1

```

* 3 *
* 4 *
* 5 *
* 6 *      $-----$
* 7 *      $EZ - DOE LOADS INPUT $
* 8 *      $-----$
* 9 *
*10 *      $ GENERAL PROJECT DATA
*11 *
*12 * TITLE LINE-1 * EMC ENGINEERS INC. *
*13 * LINE-2 * EZDOE - ELITE SOFTWARE DEVELOPMENT INC *
*14 * LINE-3 * DENVER, CO 80227 *
*15 *
*16 * LINE-4 * BUILDING 10522, ENL PERS BRKS W/CA&S *
*17 * LINE-5 * MODEL WITH SET BACK * ..
*18 *
*19 * ABORT ERRORS ..
*20 * DIAGNOSTIC WARNINGS ..
*21 * LOADS-REPORT SUMMARY=(LS-A,LS-B,LS-C,LS-D,LS-E,LS-F,LS-G,
*22 * LS-H,LS-I,LS-J,LS-K,LS-L) ..
*23 * BUILDING-LOCATION LATITUDE = 44.0
*24 * ALTITUDE = 655.
*25 * AZIMUTH = -40.
*26 * GROSS-AREA = 11544
*27 * HOLIDAY = NO
*28 * SHIELDING-COEF = 0.19
*29 * X-REF = 0.0
*30 * Y-REF = 0.0 ..
*31 * RUN-PERIOD JAN 1 1994 THRU DEC 31 1994 ..
*32 *
*33 *      $ SCHEDULES
*34 *
*35 * FULL_OND =DAY-SCHEDULE (1,24) (1.) ..
*36 *
*37 * FULL_OFFD =DAY-SCHEDULE (1,24) (0.) ..
*38 *
*39 * PEOP_D_ADM =DAY-SCHEDULE (1,6) (0.)
*40 * (7,10) (1.)
*41 * (11,13) (0.8,0.4,0.8)
*42 * (14,16) (1.)
*43 * (17,21) (0.1)
*44 * (22,24) (0.) ..
*45 *
*46 * EQP_D_ADM =DAY-SCHEDULE (1,2) (0.1)
*47 * (3,6) (0.)
*48 * (7,8) (0.3)
*49 * (9,12) (0.2)
*50 * (13) (0.3)
*51 * (14,15) (0.1)
*52 * (16) (0.2)
*53 * (17,18) (0.3)
*54 * (19,21) (0.7,1.,0.7)
*55 * (22,24) (0.1) ..
*56 *
*57 * LT_OND_ADM =DAY-SCHEDULE (1,4) (0.)
*58 * (5,6) (0.1)
*59 * (7,8) (0.2)
*60 * (9,13) (0.8)
*61 * (14) (0.7)
*62 * (15,16) (0.6)
*63 * (17,18) (0.4,0.3)
*64 * (19,24) (0.) ..
*65 *
*66 * LGHT_D_BRK =DAY-SCHEDULE (1,2) (0.1)
*67 * (3,4) (0.)
*68 * (5,6) (0.3)
*69 * (7,8) (0.5)
*70 * (9,10) (0.3)
*71 * (11,12) (0.4)
*72 * (13,16) (0.3)
*73 * (17,18) (0.4)
*74 * (19,20) (0.6)
*75 * (21,22) (0.7)
*76 * (23,24) (0.3) ..
*77 *
*78 * PEOP_D_BRK =DAY-SCHEDULE (1,5) (1.)
*79 * (6,7) (0.8,0.5)
*80 * (8,11) (0.1)
*81 * (12,13) (0.2)
*82 * (14,15) (0.1)
*83 * (16,18) (0.4)
*84 * (19,20) (0.6)
*85 * (21) (0.8)
*86 * (22,24) (1.) ..
*87 *
*88 * EQP_D_BRK =DAY-SCHEDULE (1) (0.2)
*89 * (2,5) (0.1)
*90 * (6,8) (0.3)
*91 * (9) (0.2)
*92 * (10,11) (0.1)
*93 * (12,13) (0.3)
*94 * (14,16) (0.2)
*95 * (17,18) (0.5)
*96 * (19,20) (0.7)
*97 * (21,22) (0.8)
*98 * (23,24) (0.7,0.5) ..
*99 *
*100 * PEOP_D_COR =DAY-SCHEDULE (1,5) (0.)
*101 * (6,7) (0.3,0.5)
*102 * (8,11) (0.1)

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* 103 *                (12,13) (0.2)
* 104 *                (14,15) (0.1)
* 105 *                (16,18) (0.4)
* 106 *                (19,22) (0.6,0.7,1.,0.9)
* 107 *                (23,24) (0.8,0.5) ..
* 108 *
* 109 * HALF_FAN_D =DAY-SCHEDULE (1,24) (0.5) ..
* 110 *
* 111 * MAX_FAN_D =DAY-SCHEDULE (1,11) (0.5)
* 112 *                (12,21) (1.)
* 113 *                (22,24) (0.5) ..
* 114 *
* 115 * DHW_D1 =DAY-SCHEDULE (1,5) (0.)
* 116 *                (6,9) (1.)
* 117 *                (10,20) (0.)
* 118 *                (21,22) (1.)
* 119 *                (23,24) (0.) ..
* 120 *
* 121 * DHW_D2 =DAY-SCHEDULE (1,5) (0.)
* 122 *                (6,8) (1.)
* 123 *                (9,20) (0.)
* 124 *                (21,22) (1.,0.69)
* 125 *                (23,24) (0.) ..
* 126 *
* 127 * DHW_D3 =DAY-SCHEDULE (1,5) (0.)
* 128 *                (6,8) (1.)
* 129 *                (9,20) (0.)
* 130 *                (21,22) (1.,0.86)
* 131 *                (23,24) (0.) ..
* 132 *
* 133 * DHW_D4 =DAY-SCHEDULE (1,5) (0.)
* 134 *                (6,8) (1.)
* 135 *                (9,20) (0.)
* 136 *                (21,22) (1.,0.56)
* 137 *                (23,24) (0.) ..
* 138 *
* 139 * DHW_D5 =DAY-SCHEDULE (1,5) (0.)
* 140 *                (6,8) (1.)
* 141 *                (9,20) (0.)
* 142 *                (21,22) (1.,0.15)
* 143 *                (23,24) (0.) ..
* 144 *
* 145 * DHW_D6 =DAY-SCHEDULE (1,5) (0.)
* 146 *                (6,8) (1.)
* 147 *                (9,20) (0.)
* 148 *                (21) (0.95)
* 149 *                (22,24) (0.) ..
* 150 *
* 151 * DHW_D7 =DAY-SCHEDULE (1,5) (0.)
* 152 *                (6,8) (1.)
* 153 *                (9,20) (0.)
* 154 *                (21,22) (1.)
* 155 *                (23) (0.21)
* 156 *                (24) (0.) ..
* 157 *
* 158 * DHW_D8 =DAY-SCHEDULE (1,5) (0.)
* 159 *                (6,8) (1.)
* 160 *                (9,20) (0.)
* 161 *                (21,22) (1.,0.07)
* 162 *                (23,24) (0.) ..
* 163 *
* 164 * EQ_WINT_D =DAY-SCHEDULE (1) (0.2)
* 165 *                (2,5) (0.1)
* 166 *                (6,8) (0.3)
* 167 *                (9) (0.2)
* 168 *                (10,11) (0.1)
* 169 *                (12,13) (0.3)
* 170 *                (14,15) (0.2)
* 171 *                (16,17) (0.8)
* 172 *                (18,23) (1.)
* 173 *                (24) (0.8) ..
* 174 *
* 175 *
* 176 * FULL_ONW =WEEK-SCHEDULE (ALL) FULL_OND ..
* 177 *
* 178 * FULL_OFFW =WEEK-SCHEDULE (ALL) FULL_OFFD ..
* 179 *
* 180 * LT_ONW_ADM =WEEK-SCHEDULE (WD) LT_OND_ADM
* 181 *                (WEH) FULL_OFFD ..
* 182 *
* 183 * PEOP_W_ADM =WEEK-SCHEDULE (WD) PEOP_D_ADM
* 184 *                (WEH) FULL_OFFD ..
* 185 *
* 186 * EQP_W_ADM =WEEK-SCHEDULE (WD) EQP_D_ADM
* 187 *                (WEH) FULL_OFFD ..
* 188 *
* 189 * LGHT_W_BRK =WEEK-SCHEDULE (ALL) LGHT_D_BRK ..
* 190 *
* 191 * PEOP_W_BRK =WEEK-SCHEDULE (ALL) PEOP_D_BRK ..
* 192 *
* 193 * EQP_W_BRK =WEEK-SCHEDULE (ALL) EQP_D_BRK ..
* 194 *
* 195 * PEOP_W_COR =WEEK-SCHEDULE (ALL) PEOP_D_COR ..
* 196 *
* 197 * HALF_FAN_W =WEEK-SCHEDULE (ALL) HALF_FAN_D ..
* 198 *
* 199 * MAX_FAN_W =WEEK-SCHEDULE (ALL) MAX_FAN_D ..
* 200 *
* 201 * WINT_INF_W =WEEK-SCHEDULE (ALL) EQ_WINT_D ..
* 202 *
* 203 * DHW_W1 =WEEK-SCHEDULE (ALL) DHW_D1 ..
* 204 *
* 205 * DHW_W2 =WEEK-SCHEDULE (ALL) DHW_D2 ..
* 206 *
* 207 * DHW_W3 =WEEK-SCHEDULE (ALL) DHW_D3 ..
* 208 *
* 209 * DHW_W4 =WEEK-SCHEDULE (ALL) DHW_D4 ..
* 210 *

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* 211 * DHW_W5      =WEEK-SCHEDULE (ALL) DHW_D5 ..
* 212 *
* 213 * DHW_W6      =WEEK-SCHEDULE (ALL) DHW_D6 ..
* 214 *
* 215 * DHW_W7      =WEEK-SCHEDULE (ALL) DHW_D7 ..
* 216 *
* 217 * DHW_W8      =WEEK-SCHEDULE (ALL) DHW_D8 ..
* 218 *
* 219 * EQ_WINT_W    =WEEK-SCHEDULE (ALL) EQ_WINT_D ..
* 220 *
* 221 *
* 222 * $ FULL ON SCHEDULE
* 223 * FULL_ONY     =SCHEDULE THRU DEC 31 FULL_ONW ..
* 224 *
* 225 * $ FULL OFF SCHEDULE
* 226 * FULL_OFFY    =SCHEDULE THRU DEC 31 FULL_OFFW ..
* 227 *
* 228 * $ LIGHTING SCHED ADMIN
* 229 * LGHT_Y_ADM    =SCHEDULE THRU DEC 31 LT_ONW_ADM ..
* 230 *
* 231 * $ OCCUPANCY SCHED ADMIN
* 232 * PEOP_Y_ADM    =SCHEDULE THRU DEC 31 PEOP_W_ADM ..
* 233 *
* 234 * $ EQUIPMENT SCHED ADMIN
* 235 * EQP_Y_ADM      =SCHEDULE THRU DEC 31 EQP_W_ADM ..
* 236 *
* 237 * $ LIGHTING SCHED BARRACKS
* 238 * LGHT_Y_BRK    =SCHEDULE THRU DEC 31 LGHT_W_BRK ..
* 239 *
* 240 * $ OCCUPANCY SCHED BARRACK
* 241 * PEOP_Y_BRK    =SCHEDULE THRU DEC 31 PEOP_W_BRK ..
* 242 *
* 243 * $ EQUIPMENT SCHED BARRACK
* 244 * EQP_Y_BRK      =SCHEDULE THRU FEB 28 EQ_WINT_W
* 245 *                  THRU DEC 1 EQP_W_BRK
* 246 *                  THRU DEC 31 EQ_WINT_W ..
* 247 *
* 248 * $ OCCUP, CORE AREA OF BRK
* 249 * PEOP_Y_COR     =SCHEDULE THRU DEC 31 PEOP_W_COR ..
* 250 *
* 251 * $ VENTILATION SCHED
* 252 * VENT_SCHD      =SCHEDULE THRU JUN 20 FULL_OFFW
* 253 *                  THRU JUN 25 HALF_FAN_W
* 254 *                  THRU JUL 4 MAX_FAN_W
* 255 *                  THRU AUG 20 HALF_FAN_W
* 256 *                  THRU DEC 31 FULL_OFFW ..
* 257 *
* 258 * $ INFILTRATION SCHEDULE
* 259 * INFL_SCHD      =SCHEDULE THRU DEC 31 FULL_ONW ..
* 260 *
* 261 * $ DHW SCHEDULE
* 262 * DHW_SCHD       =SCHEDULE THRU MAR 1 DHW_W1
* 263 *                  THRU MAY 1 DHW_W2
* 264 *                  THRU JUN 1 DHW_W3
* 265 *                  THRU AUG 1 DHW_W4
* 266 *                  THRU SEP 1 DHW_W5
* 267 *                  THRU OCT 1 DHW_W6
* 268 *                  THRU NOV 1 DHW_W7
* 269 *                  THRU DEC 1 DHW_W8
* 270 *                  THRU DEC 31 DHW_W1 ..
* 271 *
* 272 *
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\$ CONSTRUCTION TYPES

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* 276 * WALLP_1      =WALL-PARAMETERS FOR INTERIOR-WALL
* 277 *                  CHANNEL-WIDTH = 0.33
* 278 *                  AIR-FLOW-TYPE = FREE-DOORWAY
* 279 *                  AIR-FLOW-CTRL-DT = 3.00
* 280 *                  DOORWAY-W = 7.00 ..
* 281 *
* 282 *
* 283 * DOORCON        =CONSTRUCTION U-VALUE = 1.130 ..
* 284 * ROOFCON        =CONSTRUCTION U-VALUE = 0.050 ..
* 285 * EXWALL        =CONSTRUCTION U-VALUE = 0.200 ..
* 286 * FLOORCON      =CONSTRUCTION U-VALUE = 0.100 ..
* 287 * INWALL        =CONSTRUCTION U-VALUE = 0.500
* 288 *                  WALL-PARAMETERS = WALLP_1 ..
* 289 *
* 290 * SKYLIGHT      =GLASS-TYPE GLASS-TYPE-CODE = 5
* 291 *                  PANES = 2
* 292 *                  GLASS-CONDUCTANCE = 0.490 ..
* 293 * WNDW          =GLASS-TYPE GLASS-TYPE-CODE = 4
* 294 *                  PANES = 1
* 295 *                  GLASS-CONDUCTANCE = 1.130 ..
* 296 * DOORGLSS     =GLASS-TYPE GLASS-TYPE-CODE = 3
* 297 *                  PANES = 1
* 298 *                  GLASS-CONDUCTANCE = 1.130 ..
* 299 *
* 300 *
* 301 *
* 302 *
* 303 *
* 304 *
* 305 * ADMIN_LEFT     =SPACE AREA = 4740.0 VOLUME = 42660.0
* 306 *                  AZIMUTH = 270 ZONE-TYPE = CONDITIONED
* 307 *                  PEOPLE-SCHEDULE = PEOP_Y_ADM NUMBER-OF-PEOPLE = 33.0
* 308 *                  PEOPLE-HEAT-GAIN = 475.0
* 309 *                  LIGHTING-TYPE = REC-FLUOR-RV LIGHTING-KW = 5.44
* 310 *                  LIGHTING-SCHEDULE = LGHT_Y_ADM
* 311 *                  EQUIP-SCHEDULE = EQP_Y_ADM EQUIPMENT-KW = 3.16
* 312 *                  INF-METHOD = AIR-CHANGE AIR-CHANGES/HR = 0.1
* 313 *                  INF-SCHEDULE = INFL_SCHD ..
* 314 *
* 315 * ROOF           HEIGHT = 60.0 WIDTH = 79.0 CONS = ROOFCON
* 316 *                  AZIMUTH = 270 TILT = 0 ..
* 317 *
* 318 * U-W            HEIGHT = 60.0 WIDTH = 79.0 CONS = FLOORCON

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* 319 *          AZIMUTH = 270  ..
* 320 *
* 321 *      E-W      HEIGHT = 10.0  WIDTH = 60.0  CONS = EXWALL
* 322 *          AZIMUTH = 180  ..
* 323 *
* 324 *      E-W      HEIGHT = 10.0  WIDTH = 79.0  CONS = EXWALL
* 325 *          AZIMUTH = 90   ..
* 326 *
* 327 *      DOOR     HEIGHT = 7.5   WIDTH = 3.0   CONS = DOORCON
* 328 *          MULTIPLIER = 9.0  ..
* 329 *
* 330 *      WINDOW   HEIGHT = 3.0   WIDTH = 3.0   G-T = WNDW
* 331 *          MULTIPLIER = 4.0  ..
* 332 *
* 333 *      WINDOW   HEIGHT = 5.5   WIDTH = 3.0   G-T = WNDW ..
* 334 *
* 335 *      E-W      HEIGHT = 10.0  WIDTH = 79.0  CONS = EXWALL
* 336 *          AZIMUTH = 270  ..
* 337 *
* 338 *      WINDOW   HEIGHT = 3.0   WIDTH = 3.0   G-T = WNDW
* 339 *          MULTIPLIER = 4.0  ..
* 340 *
* 341 *      DOOR     HEIGHT = 7.5   WIDTH = 3.0   CONS = DOORCON ..
* 342 *
* 343 *
* 344 *  ADMIN_CNTR =SPACE  AREA = 5230.0  VOLUME = 47070.0
* 345 *                      AZIMUTH = 270  TEMPERATURE = (68.)
* 346 *                      ZONE-TYPE = CONDITIONED  PEOPLE-SCHEDULE = PEOP_Y_ADM
* 347 *                      NUMBER-OF-PEOPLE = 33.0  PEOPLE-HEAT-GAIN = 475.0
* 348 *                      LIGHTING-TYPE = REC-FLUOR-RV  LIGHTING-KW = 5.76
* 349 *                      LIGHTING-SCHEDULE = LGHT_Y_ADM
* 350 *                      EQUIP-SCHEDULE = EQP_Y_ADM  EQUIPMENT-KW = 3.16
* 351 *                      SOURCE-SCHEDULE = VENT_SCHED  SOURCE-TYPE = ELECTRIC
* 352 *                      SOURCE-BTU/HR = 31813.0  SOURCE-SENSIBLE = 0.0
* 353 *                      INF-METHOD = AIR-CHANGE  AIR-CHANGES/HR = 0.25
* 354 *                      INF-SCHEDULE = INFL_SCHED ..
* 355 *
* 356 *      ROOF     HEIGHT = 87.2  WIDTH = 60.0  CONS = ROOFCON
* 357 *          AZIMUTH = 270  TILT = 0  ..
* 358 *
* 359 *      U-W      HEIGHT = 87.2  WIDTH = 60.0  CONS = FLOORCON
* 360 *          AZIMUTH = 270  ..
* 361 *
* 362 *      E-W      HEIGHT = 10.0  WIDTH = 60.0  CONS = EXWALL
* 363 *          AZIMUTH = 90   ..
* 364 *
* 365 *      E-W      HEIGHT = 10.0  WIDTH = 32.0  CONS = EXWALL
* 366 *          AZIMUTH = 180  ..
* 367 *
* 368 *      E-W      HEIGHT = 10.0  WIDTH = 32.0  CONS = EXWALL
* 369 *          AZIMUTH = 0    ..
* 370 *
* 371 *      E-W      HEIGHT = 10.0  WIDTH = 49.0  CONS = EXWALL
* 372 *          AZIMUTH = 270  ..
* 373 *
* 374 *      DOOR     HEIGHT = 7.5   WIDTH = 3.0   CONS = DOORCON
* 375 *          MULTIPLIER = 3.0  ..
* 376 *
* 377 *      WINDOW   HEIGHT = 3.0   WIDTH = 3.0   G-T = WNDW
* 378 *          MULTIPLIER = 3.0  ..
* 379 *
* 380 *      I-W      HEIGHT = 9.0   WIDTH = 60.0  CONS = INWALL
* 381 *          AZIMUTH = 180  NEXT-TO = ADMIN_LEFT ..
* 382 *
* 383 *      I-W      HEIGHT = 9.0   WIDTH = 60.0  CONS = INWALL
* 384 *          NEXT-TO = ADMIN_RGHT ..
* 385 *
* 386 *
* 387 *  ADMIN_RGHT =SPACE  AREA = 4740.0  VOLUME = 42660.0
* 388 *                      AZIMUTH = 270  TEMPERATURE = (68.)
* 389 *                      ZONE-TYPE = CONDITIONED  PEOPLE-SCHEDULE = PEOP_Y_ADM
* 390 *                      NUMBER-OF-PEOPLE = 33.0  PEOPLE-HEAT-GAIN = 475.0
* 391 *                      LIGHTING-TYPE = REC-FLUOR-RV  LIGHTING-KW = 5.68
* 392 *                      LIGHTING-SCHEDULE = LGHT_Y_ADM
* 393 *                      EQUIP-SCHEDULE = EQP_Y_ADM  EQUIPMENT-KW = 3.16
* 394 *                      INF-METHOD = AIR-CHANGE  AIR-CHANGES/HR = 0.1
* 395 *                      INF-SCHEDULE = INFL_SCHED ..
* 396 *
* 397 *      ROOF     HEIGHT = 60.0  WIDTH = 79.0  CONS = ROOFCON
* 398 *          AZIMUTH = 270  TILT = 0  ..
* 399 *
* 400 *      U-W      HEIGHT = 60.0  WIDTH = 79.0  CONS = FLOORCON
* 401 *          AZIMUTH = 270  ..
* 402 *
* 403 *      E-W      HEIGHT = 10.0  WIDTH = 79.0  CONS = EXWALL
* 404 *          AZIMUTH = 90   ..
* 405 *
* 406 *      DOOR     HEIGHT = 7.5   WIDTH = 3.0   CONS = DOORCON
* 407 *          MULTIPLIER = 9.0  ..
* 408 *
* 409 *      WINDOW   HEIGHT = 3.0   WIDTH = 3.0   G-T = WNDW
* 410 *          MULTIPLIER = 4.0  ..
* 411 *
* 412 *      WINDOW   HEIGHT = 5.5   WIDTH = 3.0   G-T = WNDW ..
* 413 *
* 414 *      E-W      HEIGHT = 10.0  WIDTH = 60.0  CONS = EXWALL
* 415 *          AZIMUTH = 0    ..
* 416 *
* 417 *      E-W      HEIGHT = 10.0  WIDTH = 60.0  CONS = EXWALL
* 418 *          AZIMUTH = 270  ..
* 419 *
* 420 *      WINDOW   HEIGHT = 3.0   WIDTH = 3.0   G-T = WNDW
* 421 *          MULTIPLIER = 4.0  ..
* 422 *
* 423 *      DOOR     HEIGHT = 7.5   WIDTH = 3.0   CONS = DOORCON ..
* 424 *
* 425 *
* 426 *  BRKS_CORE =SPACE  AREA = 5392.0  VOLUME = 48528.0

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* 427 *          AZIMUTH = 270  TEMPERATURE = (68.)
* 428 *          ZONE-TYPE = CONDITIONED  PEOPLE-SCHEDULE = PEOP_Y_COR
* 429 *          NUMBER-OF-PEOPLE = 40.0  PEOPLE-HEAT-GAIN = 500.0
* 430 *          LIGHTING-TYPE = REC-FLUOR-RV  LIGHTING-KW = 3.44
* 431 *          LIGHTING-SCHEDULE = LGHT_Y_BRK
* 432 *          EQUIP-SCHEDULE = PEOP_Y_COR  EQUIPMENT-KW = 33.0
* 433 *          EQUIP-SENSIBLE = 0.05  SOURCE-SCHEDULE = VENT_SCHED
* 434 *          SOURCE-TYPE = ELECTRIC  SOURCE-BTU/HR = 30545.0
* 435 *          SOURCE-SENSIBLE = 0.0  INF-METHOD = AIR-CHANGE
* 436 *          AIR-CHANGES/HR = 0.75  INF-SCHEDULE = INFL_SCHED ..
* 437 *
* 438 *          ROOF  HEIGHT = 73.4  WIDTH = 73.4  CONS = ROOFCON
* 439 *          AZIMUTH = 45  TILT = 0  ..
* 440 *
* 441 *          U-W  HEIGHT = 73.4  WIDTH = 73.4  CONS = FLOORCON
* 442 *          AZIMUTH = 45  ..
* 443 *
* 444 *          E-W  HEIGHT = 20.0  WIDTH = 37.5  CONS = EXWALL
* 445 *          AZIMUTH = 135  ..
* 446 *
* 447 *          WINDOW HEIGHT = 2.7  WIDTH = 2.6  G-T = WNDW
* 448 *          MULTIPLIER = 7.0  ..
* 449 *
* 450 *          E-W  HEIGHT = 20.0  WIDTH = 37.5  CONS = EXWALL
* 451 *          AZIMUTH = 45  ..
* 452 *
* 453 *          WINDOW HEIGHT = 2.7  WIDTH = 2.6  G-T = WNDW
* 454 *          MULTIPLIER = 7.0  ..
* 455 *
* 456 *          DOOR  HEIGHT = 7.5  WIDTH = 3.0  CONS = DOORCON
* 457 *          MULTIPLIER = 2.0  ..
* 458 *
* 459 *          E-W  HEIGHT = 20.0  WIDTH = 10.0  CONS = EXWALL
* 460 *          AZIMUTH = 270  ..
* 461 *
* 462 *          WINDOW HEIGHT = 4.0  WIDTH = 4.0  G-T = WNDW ..
* 463 *
* 464 *          DOOR  HEIGHT = 7.5  WIDTH = 3.0  CONS = DOORCON
* 465 *          MULTIPLIER = 2.0  ..
* 466 *
* 467 *
* 468 *          BRKS_RIGHT =SPACE  AREA = 8840.0  VOLUME = 79560.0
* 469 *          AZIMUTH = 225  TEMPERATURE = (75.)
* 470 *          ZONE-TYPE = CONDITIONED  PEOPLE-SCHEDULE = PEOP_Y_BRK
* 471 *          NUMBER-OF-PEOPLE = 56.0  PEOPLE-HEAT-GAIN = 500.0
* 472 *          LIGHTING-TYPE = REC-FLUOR-RV  LIGHTING-KW = 6.72
* 473 *          LIGHTING-SCHEDULE = LGHT_Y_BRK
* 474 *          EQUIP-SCHEDULE = EQP_Y_BRK  EQUIPMENT-KW = 18.2
* 475 *          SOURCE-SCHEDULE = DHW_SCHED  SOURCE-TYPE = HOT-WATER
* 476 *          SOURCE-BTU/HR = 86936.0  SOURCE-SENSIBLE = 0.0
* 477 *          INF-METHOD = AIR-CHANGE  AIR-CHANGES/HR = 1.0
* 478 *          INF-SCHEDULE = INFL_SCHED ..
* 479 *
* 480 *          ROOF  HEIGHT = 43.3  WIDTH = 102.0  CONS = ROOFCON
* 481 *          AZIMUTH = 225  TILT = 0  ..
* 482 *
* 483 *          U-W  HEIGHT = 43.3  WIDTH = 102.0  CONS = FLOORCON
* 484 *          AZIMUTH = 225  ..
* 485 *
* 486 *          E-W  HEIGHT = 20.0  WIDTH = 102.0  CONS = EXWALL
* 487 *          AZIMUTH = 225  ..
* 488 *
* 489 *          E-W  HEIGHT = 20.0  WIDTH = 102.0  CONS = EXWALL
* 490 *          AZIMUTH = 45  ..
* 491 *
* 492 *          WINDOW HEIGHT = 4.0  WIDTH = 4.0  G-T = WNDW
* 493 *          MULTIPLIER = 16.0  ..
* 494 *
* 495 *          WINDOW HEIGHT = 4.0  WIDTH = 4.0  G-T = WNDW
* 496 *          MULTIPLIER = 14.0  ..
* 497 *
* 498 *          E-W  HEIGHT = 20.0  WIDTH = 43.3  CONS = EXWALL
* 499 *          AZIMUTH = 315  ..
* 500 *
* 501 *          DOOR  HEIGHT = 7.5  WIDTH = 3.0  CONS = DOORCON ..
* 502 *
* 503 *
* 504 *          BRKS_LEFT =SPACE  AREA = 8840.0  VOLUME = 120402.0
* 505 *          AZIMUTH = 315  TEMPERATURE = (75.)
* 506 *          ZONE-TYPE = CONDITIONED  PEOPLE-SCHEDULE = PEOP_Y_BRK
* 507 *          NUMBER-OF-PEOPLE = 80.0  PEOPLE-HEAT-GAIN = 500.0
* 508 *          LIGHTING-TYPE = REC-FLUOR-RV  LIGHTING-KW = 9.6
* 509 *          LIGHTING-SCHEDULE = LGHT_Y_BRK
* 510 *          EQUIP-SCHEDULE = EQP_Y_BRK  EQUIPMENT-KW = 26.0
* 511 *          SOURCE-SCHEDULE = DHW_SCHED  SOURCE-TYPE = HOT-WATER
* 512 *          SOURCE-BTU/HR = 124133.0  SOURCE-SENSIBLE = 0.0
* 513 *          INF-METHOD = AIR-CHANGE  AIR-CHANGES/HR = 1.0
* 514 *          INF-SCHEDULE = INFL_SCHED ..
* 515 *
* 516 *          ROOF  HEIGHT = 49.0  WIDTH = 136.5  CONS = ROOFCON
* 517 *          AZIMUTH = 315  TILT = 0  ..
* 518 *
* 519 *          U-W  HEIGHT = 49.0  WIDTH = 136.5  CONS = FLOORCON
* 520 *          AZIMUTH = 315  ..
* 521 *
* 522 *          E-W  HEIGHT = 20.0  WIDTH = 136.5  CONS = EXWALL
* 523 *          AZIMUTH = 135  ..
* 524 *
* 525 *          WINDOW HEIGHT = 4.0  WIDTH = 4.0  G-T = WNDW
* 526 *          MULTIPLIER = 20.0  ..
* 527 *
* 528 *          E-W  HEIGHT = 20.0  WIDTH = 136.5  CONS = EXWALL
* 529 *          AZIMUTH = 315  ..
* 530 *
* 531 *          WINDOW HEIGHT = 4.0  WIDTH = 4.0  G-T = WNDW
* 532 *          MULTIPLIER = 22.0  ..
* 533 *
* 534 *          E-W  HEIGHT = 20.0  WIDTH = 49.0  CONS = EXWALL

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* 535 *           AZIMUTH = 225  ..
* 536 *
* 537 *           DOOR  HEIGHT = 7.5  WIDTH = 3.0  CONS = DOORCON ..
* 538 *
* 539 *
* 540 * MECH_ROOM  =SPACE  AREA = 400.0  VOLUME = 4000.0
* 541 *           ZONE-TYPE = CONDITIONED  AREA/PERSON = 100.0
* 542 *           INF-METHOD = AIR-CHANGE  AIR-CHANGES/HR = 2.5
* 543 *           INF-SCHEDULE = FULL_ONY  ..
* 544 *
* 545 *           E-W    HEIGHT = 10.0  WIDTH = 20.0  CONS = EXWALL
* 546 *           AZIMUTH = 225  ..
* 547 *
* 548 *           DOOR  HEIGHT = 7.5  WIDTH = 3.0  CONS = DOORCON
* 549 *           MULTIPLIER = 2.0  ..
* 550 *
* 551 *
* 552 * END  ..
* 553 * COMPUTE LOADS  ..
* 554 *
* 555 * INPUT SYSTEMS  ..

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SDL PROCESSOR INPUT DATA

3/26/1995 13:56:26 SDL RUN 1

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$-----$
$EZ-DOE SYSTEMS INPUT$
$-----$

$ GENERAL PROJECT DATA

TITLE LINE-1 * EMC ENGINEERS INC. *
LINE-2 *EZDOE - ELITE SOFTWARE DEVELOPMENT INC*
LINE-3 * DENVER, CO 80227 *
LINE-4 *BUILDING 10522, ENL PERS BRKS W/CA&S *
LINE-5 *MODEL WITH SET BACK * ..

ABORT ERRORS ..
DIAGNOSTIC WARNINGS ..
SYSTEMS-REPORT SUMMARY=(SS-A,SS-B,SS-C,SS-F,SS-G,SS-H,SS-I,
SS-J,SS-K,SS-L,SS-M,SS-N,SS-O) ..

$ SCHEDULES

FULL_OND =DAY-SCHEDULE (1,24) (1.) ..
FULL_OFFD =DAY-SCHEDULE (1,24) (0.) ..
HIGH_HT_D =DAY-SCHEDULE (1,24) (74.) ..
LOW_HT_D =DAY-SCHEDULE (1,24) (55.) ..
BRKS_HT_D =DAY-SCHEDULE (1,24) (75.) ..
FAN_WSB_D =DAY-SCHEDULE (1,4) (0.)
(5,16) (1.)
(17,24) (0.) ..
HT68_WSB_D =DAY-SCHEDULE (1,4) (50.)
(5,16) (74.)
(17,24) (50.) ..
HEAT_50_D =DAY-SCHEDULE (1,24) (50.) ..

FULL_ONW =WEEK-SCHEDULE (ALL) FULL_OND ..
FULL_OFFW =WEEK-SCHEDULE (ALL) FULL_OFFD ..
HIGH_HT_W =WEEK-SCHEDULE (ALL) HIGH_HT_D ..
LOW_HT_W =WEEK-SCHEDULE (ALL) LOW_HT_D ..
BARKS_HT_W =WEEK-SCHEDULE (ALL) BRKS_HT_D ..
FAN_WSB_W =WEEK-SCHEDULE (WD) FAN_WSB_D
(SAT) FULL_OFFD
(SUN) FULL_OFFD
(HOL) FAN_WSB_D ..
HT68_WSB_W =WEEK-SCHEDULE (WD) HT68_WSB_D
(SAT) HEAT_50_D
(SUN) HEAT_50_D
(HOL) HT68_WSB_D ..

$ FULL ON SCHEDULE
FULL_ONY =SCHEDULE THRU DEC 31 FULL_ONW ..

$ FULL OFF SCHEDULE
FULL_OFFY =SCHEDULE THRU DEC 31 FULL_OFFW ..

$ AHU1 HEATING SCHEDULE
HIGH_HT =SCHEDULE THRU MAY 31 HIGH_HT_W
THRU OCT 1 FULL_OFFW
THRU DEC 31 HIGH_HT_W ..

$ AHU2 HEAT SCHEDULE
LOW_HT =SCHEDULE THRU MAY 31 LOW_HT_W
THRU OCT 1 FULL_OFFW
THRU DEC 31 LOW_HT_W ..

$ BARRACKS HEATING SCHED
BRKS_HEAT =SCHEDULE THRU MAY 31 BARKS_HT_W
THRU OCT 1 FULL_OFFW
THRU DEC 31 BARKS_HT_W ..

FAN_W_SB =SCHEDULE THRU DEC 31 FAN_WSB_W ..
HT_68_W_SB =SCHEDULE THRU DEC 31 HT68_WSB_W ..

$ ZONE DESCRIPTION

ADMIN_LEFT =ZONE DESIGN-HEAT-T = 68.0 DESIGN-COOL-T = 75.0
HEAT-TEMP-SCH = HT 68 W_SB ZONE-TYPE = CONDITIONED
THERMOSTAT-TYPE = PROPORTIONAL
BASEBOARD-CTRL = THERMOSTATIC
BASEBOARD-RATING = -66265. ASSIGNED-CFM = 770.
OUTSIDE-AIR-CFM = 770. SIZING-OPTION = FROM-LOADS
RATED-CFM = 770.0 MIN-CFM-RATIO = 1.0
EXHAUST-CFM = 770.0 HEATING-CAPACITY = -62370.0 ..

ADMIN_CNTR =ZONE DESIGN-HEAT-T = 68.0 DESIGN-COOL-T = 75.0
HEAT-TEMP-SCH = HT 68 W_SB ZONE-TYPE = CONDITIONED
THERMOSTAT-TYPE = PROPORTIONAL
BASEBOARD-CTRL = THERMOSTATIC
BASEBOARD-RATING = -56819. ASSIGNED-CFM = 770.
OUTSIDE-AIR-CFM = 770. SIZING-OPTION = FROM-LOADS
RATED-CFM = 770.0 MIN-CFM-RATIO = 1.0

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* 656 *          EXHAUST-CFM = 770.0 HEATING-CAPACITY = -62370.0 ..
* 657 *
* 658 * ADMIN_RGHT =ZONE DESIGN-HEAT-T = 68.0 DESIGN-COOL-T = 80.0
* 659 *          HEAT-TEMP-SCH = HT 68 W_SB ZONE-TYPE = CONDITIONED
* 660 *          THERMOSTAT-TYPE = PROPORTIONAL
* 661 *          BASEBOARD-CTRL = THERMOSTATIC
* 662 *          BASEBOARD-RATING = -66265. ASSIGNED-CFM = 770.
* 663 *          OUTSIDE-AIR-CFM = 770. SIZING-OPTION = FROM-LOADS
* 664 *          RATED-CFM = 770.0 MIN-CFM-RATIO = 1.0
* 665 *          EXHAUST-CFM = 770.0 HEATING-CAPACITY = -62370.0 ..
* 666 *
* 667 * BRKS_CORE =ZONE DESIGN-HEAT-T = 74.0 DESIGN-COOL-T = 80.0
* 668 *          HEAT-TEMP-SCH = HIGH HT ZONE-TYPE = CONDITIONED
* 669 *          THERMOSTAT-TYPE = PROPORTIONAL
* 670 *          BASEBOARD-CTRL = THERMOSTATIC
* 671 *          BASEBOARD-RATING = -97709. ASSIGNED-CFM = 10.
* 672 *          SIZING-OPTION = FROM-LOADS RATED-CFM = 10.0
* 673 *          MIN-CFM-RATIO = 1.0 HEATING-CAPACITY = -1.0 ..
* 674 *
* 675 * BRKS_RIGHT =ZONE DESIGN-HEAT-T = 74.0 DESIGN-COOL-T = 80.0
* 676 *          HEAT-TEMP-SCH = BRKS HEAT ZONE-TYPE = CONDITIONED
* 677 *          THERMOSTAT-TYPE = PROPORTIONAL
* 678 *          BASEBOARD-CTRL = THERMOSTATIC
* 679 *          BASEBOARD-RATING = -134470. ASSIGNED-CFM = 1060.
* 680 *          OUTSIDE-AIR-CFM = 1060. SIZING-OPTION = FROM-LOADS
* 681 *          RATED-CFM = 1060.0 MIN-CFM-RATIO = 1.0
* 682 *          EXHAUST-CFM = 1060.0 HEATING-CAPACITY = -85860.0 ..
* 683 *
* 684 * BRKS_LEFT =ZONE DESIGN-HEAT-T = 74.0 DESIGN-COOL-T = 80.0
* 685 *          HEAT-TEMP-SCH = BRKS HEAT ZONE-TYPE = CONDITIONED
* 686 *          THERMOSTAT-TYPE = PROPORTIONAL
* 687 *          BASEBOARD-CTRL = THERMOSTATIC
* 688 *          BASEBOARD-RATING = -193073. ASSIGNED-CFM = 1300.
* 689 *          OUTSIDE-AIR-CFM = 1300. SIZING-OPTION = FROM-LOADS
* 690 *          RATED-CFM = 1300.0 MIN-CFM-RATIO = 1.0
* 691 *          EXHAUST-CFM = 1300.0 HEATING-CAPACITY = -105300.0 ..
* 692 *
* 693 * MECH_ROOM =ZONE DESIGN-HEAT-T = 60.0 DESIGN-COOL-T = 80.0
* 694 *          HEAT-TEMP-SCH = LOW HT ZONE-TYPE = CONDITIONED
* 695 *          THERMOSTAT-TYPE = PROPORTIONAL
* 696 *          BASEBOARD-CTRL = THERMOSTATIC
* 697 *          BASEBOARD-RATING = -37899. ASSIGNED-CFM = 1230.
* 698 *          SIZING-OPTION = FROM-LOADS RATED-CFM = 1230.0
* 699 *          HEATING-CAPACITY = -5560.0 ..
* 700 *
* 701 *
* 702 * $ SYSTEM DESCRIPTION
* 703 *
* 704 * AHU_1 =SYSTEM SYSTEM-TYPE = HVSYS
* 705 *          MAX-SUPPLY-T = 135.0 HEATING-SCHEDULE = HIGH_HT
* 706 *          MIN-HUMIDITY = 30.0 ECONO-LIMIT-T = 65.0
* 707 *          ECONO-LOW-LIMIT = 55.0 HEAT-CONTROL = COLDEST
* 708 *          OA-CONTROL = FIXED SUPPLY-CFM = 770.
* 709 *          RATED-CFM = 770. MIN-OUTSIDE-AIR = 1.0
* 710 *          FAN-SCHEDULE = FAN W_SB SUPPLY-DELTA-T = 2.4
* 711 *          SUPPLY-KW = 0.00078 NIGHT-CYCLE-CTRL = CYCLE-ON-ANY
* 712 *          NIGHT-VENT-DT = 0.0 HEATING-CAPACITY = -62370.
* 713 *          FURNACE-AUX = 0.
* 714 *          ZONE-NAMES = (ADMIN_LEFT) ..
* 715 *
* 716 * AHU_4 =SYSTEM SYSTEM-TYPE = HVSYS
* 717 *          MAX-SUPPLY-T = 135.0 HEATING-SCHEDULE = HIGH_HT
* 718 *          MIN-HUMIDITY = 30.0 ECONO-LIMIT-T = 65.0
* 719 *          ECONO-LOW-LIMIT = 55.0 HEAT-CONTROL = COLDEST
* 720 *          OA-CONTROL = FIXED SUPPLY-CFM = 770.
* 721 *          RATED-CFM = 770. MIN-OUTSIDE-AIR = 1.0
* 722 *          FAN-SCHEDULE = FAN W_SB SUPPLY-DELTA-T = 2.4
* 723 *          SUPPLY-KW = 0.00078 NIGHT-CYCLE-CTRL = CYCLE-ON-ANY
* 724 *          NIGHT-VENT-DT = 0.0 HEATING-CAPACITY = -62370.
* 725 *          FURNACE-AUX = 0.
* 726 *          ZONE-NAMES = (ADMIN_RGHT) ..
* 727 *
* 728 * AHU_5 =SYSTEM SYSTEM-TYPE = HVSYS
* 729 *          MAX-SUPPLY-T = 135.0 HEATING-SCHEDULE = BRKS_HEAT
* 730 *          MIN-HUMIDITY = 30.0 ECONO-LIMIT-T = 65.0
* 731 *          ECONO-LOW-LIMIT = 55.0 HEAT-CONTROL = COLDEST
* 732 *          OA-CONTROL = FIXED SUPPLY-CFM = 1300.
* 733 *          RATED-CFM = 1300. MIN-OUTSIDE-AIR = 1.0
* 734 *          SUPPLY-DELTA-T = 2.4 SUPPLY-KW = 0.00078
* 735 *          NIGHT-CYCLE-CTRL = STAY-OFF NIGHT-VENT-DT = 0.0
* 736 *          HEATING-CAPACITY = -105300. FURNACE-AUX = 0.
* 737 *          ZONE-NAMES = (BRKS_LEFT) ..
* 738 *
* 739 * AHU_6 =SYSTEM SYSTEM-TYPE = HVSYS
* 740 *          MAX-SUPPLY-T = 135.0 HEATING-SCHEDULE = BRKS_HEAT
* 741 *          MIN-HUMIDITY = 30.0 ECONO-LIMIT-T = 65.0
* 742 *          ECONO-LOW-LIMIT = 55.0 HEAT-CONTROL = COLDEST
* 743 *          OA-CONTROL = FIXED SUPPLY-CFM = 1060.
* 744 *          RATED-CFM = 1060. MIN-OUTSIDE-AIR = 1.0
* 745 *          SUPPLY-DELTA-T = 2.4 SUPPLY-KW = 0.00078
* 746 *          NIGHT-CYCLE-CTRL = STAY-OFF NIGHT-VENT-DT = 0.0
* 747 *          HEATING-CAPACITY = -85860. FURNACE-AUX = 0.
* 748 *          ZONE-NAMES = (BRKS_RIGHT) ..
* 749 *
* 750 * AHU_3 =SYSTEM SYSTEM-TYPE = HVSYS
* 751 *          MAX-SUPPLY-T = 135.0 HEATING-SCHEDULE = HIGH_HT
* 752 *          MIN-HUMIDITY = 30.0 ECONO-LIMIT-T = 65.0
* 753 *          ECONO-LOW-LIMIT = 55.0 HEAT-CONTROL = COLDEST
* 754 *          OA-CONTROL = FIXED SUPPLY-CFM = 10.
* 755 *          RATED-CFM = 10. MIN-OUTSIDE-AIR = 1.0
* 756 *          SUPPLY-DELTA-T = 2.4 SUPPLY-KW = 0.00078
* 757 *          NIGHT-CYCLE-CTRL = STAY-OFF NIGHT-VENT-DT = 0.0
* 758 *          HEATING-CAPACITY = -1. FURNACE-AUX = 0.
* 759 *          ZONE-NAMES = (BRKS_CORE) ..
* 760 *
* 761 * AHU_2 =SYSTEM SYSTEM-TYPE = HVSYS
* 762 *          MAX-SUPPLY-T = 135.0 HEATING-SCHEDULE = HIGH_HT
* 763 *          MIN-HUMIDITY = 30.0 ECONO-LIMIT-T = 65.0

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* 764 *      ECONO-LOW-LIMIT = 55.0 HEAT-CONTROL = COLDEST
* 765 *      OA-CONTROL = FIXED SUPPLY-CFM = 770.
* 766 *      RATED-CFM = 770. MIN-OUTSIDE-AIR = 1.0
* 767 *      FAN-SCHEDULE = FAN W SB SUPPLY-DELTA-T = 2.4
* 768 *      SUPPLY-KW = 0.00078 NIGHT-CYCLE-CTRL = CYCLE-ON-ANY
* 769 *      NIGHT-VENT-DT = 0.0 HEATING-CAPACITY = -62370.
* 770 *      FURNACE-AUX = 0.
* 771 *      ZONE-NAMES = (ADMIN_CNTR) ..
* 772 *
* 773 * AHU_7      =SYSTEM  SYSTEM-TYPE = HVSYS
* 774 *      MAX-SUPPLY-T = 135.0 HEATING-SCHEDULE = LOW_HT
* 775 *      MIN-HUMIDITY = 30.0 ECONO-LIMIT-T = 65.0
* 776 *      ECONO-LOW-LIMIT = 55.0 HEAT-CONTROL = COLDEST
* 777 *      OA-CONTROL = FIXED SUPPLY-CFM = 1230.
* 778 *      RETURN-CFM = 1230. RATED-CFM = 1230.
* 779 *      MAX-OA-FRACTION = 0.0 SUPPLY-DELTA-T = 2.4
* 780 *      SUPPLY-KW = 0.00078 NIGHT-CYCLE-CTRL = STAY-OFF
* 781 *      NIGHT-VENT-DT = 0.0 HEATING-CAPACITY = -5560.
* 782 *      FURNACE-AUX = 0.
* 783 *      ZONE-NAMES = (MECH_ROOM) ..
* 784 *
* 785 * END ..
* 786 * COMPUTE SYSTEMS ..
* 787 *
* 788 * INPUT PLANT ..

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PDL PROCESSOR INPUT DATA

3/26/1995 13:56:26 PDL RUN 1

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* 789 *
* 790 *
* 791 *
* 792 *          $-----$
* 793 *          $ B Z - D O E   P L A N T S   I N P U T $
* 794 *          $-----$
* 795 *
* 796 *          $ GENERAL PROJECT DATA
* 797 *
* 798 * TITLE  LINE-1 *      EMC      ENGINEERS      INC.      *
* 799 *          LINE-2 *EZDOE - ELITE SOFTWARE DEVELOPMENT INC*
* 800 *          LINE-3 *      DENVER,      CO      80227      *
* 801 *          LINE-4 *BUILDING 10522, ENL PERS BRKS W/CA&S      *
* 802 *          LINE-5 *MODEL WITH SET BACK      * ..
* 803 *
* 804 * ABORT      ERRORS      ..
* 805 * DIAGNOSTIC  WARNINGS ..
* 806 * PLANT-REPORT SUMMARY=(PS-A,PS-B,PS-C,PS-D,PS-G,PS-H,PS-I,
* 807 *          BEPS)
* 808 *
* 809 *
* 810 *          $ SCHEDULES
* 811 *
* 812 * HE_D      =DAY-SCHEDULE (1,24) (1.) ..
* 813 *
* 814 * FULL_OFFD =DAY-SCHEDULE (1,24) (0.) ..
* 815 *
* 816 *
* 817 * HE_W      =WEEK-SCHEDULE (ALL) HE_D ..
* 818 *
* 819 * FULL_OFFW =WEEK-SCHEDULE (ALL) FULL_OFFD ..
* 820 *
* 821 *
* 822 * $ HEAT EXCHANGER SCHED
* 823 * HE_SCHED  =SCHEDULE THRU MAY 1 HE_W
* 824 *          THRU OCT 1 FULL_OFFW
* 825 *          THRU DEC 31 HE_W ..
* 826 *
* 827 * $ DHW SCHEDULE
* 828 * DHW_SCHED =SCHEDULE THRU MAY 1 FULL_OFFW
* 829 *          THRU OCT 1 HE_W
* 830 *          THRU DEC 31 FULL_OFFW ..
* 831 *
* 832 *
* 833 *
* 834 *          $ EQUIPMENT DESCRIPTION
* 835 *
* 836 * CONVERTERS =PLANT-EQUIPMENT TYPE = HTANK-STORAGE
* 837 *          SIZE = 1.1 ..
* 838 *
* 839 * DHW        =PLANT-EQUIPMENT TYPE = HTANK-STORAGE
* 840 *          SIZE = 0.2 ..
* 841 *
* 842 * PLANT-PARAMETERS BOILER-FUEL = COAL MAKEUP-WTR-T = 200.
* 843 *          STM-BOILER-HIR = 1.0 CCIRC-HEAD = 65.0
* 844 *          HCIRC-HEAD = 65.0 ..
* 845 *
* 846 *
* 847 * ENERGY-RESOURCE RESOURCE = ELECTRICITY ..
* 848 * ENERGY-RESOURCE RESOURCE = STEAM SOURCE-SITE-EFF = 1.000 ..
* 849 *
* 850 * ENERGY-STORAGE HEAT-STORE-RATE = 1000.0 HEAT-SUPPLY-RATE = 1000.0
* 851 *          HTANK-BASE-T = 195.0 HTANK-T-RANGE = 5.0
* 852 *          HEAT-STORE-SCH = HE_SCHED HTANK-ENV-T = 65.0 ..
* 853 *
* 854 * HEAT-RECOVERY
* 855 *          SUPPLY-1 = (HTANK-STORAGE)
* 856 *          DEMAND-1 = (SPACE-HEAT) ..
* 857 *
* 858 * CONV_ASSIG =LOAD-ASSIGNMENT TYPE = HEATING
* 859 *          OPERATION-MODE = RUN-ALL
* 860 *
* 861 *          LOAD-RANGE = 1.056
* 862 *          PLANT-EQUIPMENT = CONVERTERS
* 863 *          NUMBER = 1 ..
* 864 *
* 865 * DHW_ASSIGN =LOAD-ASSIGNMENT TYPE = HEATING
* 866 *          OPERATION-MODE = RUN-ALL
* 867 *
* 868 *          LOAD-RANGE = 0.211
* 869 *          PLANT-EQUIPMENT = DHW
* 870 *          NUMBER = 1 ..
* 871 *
* 872 *
* 873 *
* 874 * END ..
* 875 * COMPUTE PLANT ..
* 876 * STOP ..
```



ENERGY TYPE IN SITE MBTU-	STEAM	ELECTRICITY
CATEGORY OF USE		
SPACE HEAT	2,895.27	0.00
SPACE COOL	0.00	0.00
HVAC AUX	0.00	129.51
DOM HOT WTR	376.90	0.00
AUX SOLAR	0.00	0.00
LIGHTS	0.00	314.63
VERT TRANS	0.00	0.00
MISC EQUIP	0.00	901.19
	<hr/>	<hr/>
TOTAL	3,272.17	1,345.33

TOTAL SITE ENERGY 4617.48 MBTU 400.0 KBTU/SQFT-YR GROSS-AREA 120.9 KBTU/SQFT-YR NET-AREA  
 TOTAL SOURCE ENERGY 7312.15 MBTU 633.4 KBTU/SQFT-YR GROSS-AREA 191.5 KBTU/SQFT-YR NET-AREA

PERCENT OF HOURS ANY SYSTEM ZONE OUTSIDE OF THROTTLING RANGE = 19.7  
 PERCENT OF HOURS ANY PLANT LOAD NOT SATISFIED = 0.0

NOTE ELECTRICITY AND/OR FUEL USED TO GENERATE ELECTRICITY IS APPORTIONED BASED  
 ON THE YEARLY DEMAND. ALL OTHER ENERGY TYPES ARE APPORTIONED HOURLY.

MO	UTILITY-	STEAM	ELECTRICITY
	TOTAL (MBTU)	600.991	121.188
JAN	PEAK (KBTU)	1354.411	347.493
	DY/HR	26/ 7	31/21
	TOTAL (MBTU)	478.185	110.151
FEB	PEAK (KBTU)	1231.322	347.493
	DY/HR	4/ 9	28/21
	TOTAL (MBTU)	497.608	108.498
MAR	PEAK (KBTU)	1258.040	317.322
	DY/HR	9/ 7	31/21
	TOTAL (MBTU)	305.188	104.151
APR	PEAK (KBTU)	1165.165	317.322
	DY/HR	1/ 6	29/21
	TOTAL (MBTU)	199.577	107.664
MAY	PEAK (KBTU)	1099.135	317.322
	DY/HR	3/ 7	30/21
	TOTAL (MBTU)	28.938	110.580
JUN	PEAK (KBTU)	211.069	375.116
	DY/HR	30/21	30/21
	TOTAL (MBTU)	29.837	128.207
JUL	PEAK (KBTU)	211.069	375.116
	DY/HR	31/21	4/21
	TOTAL (MBTU)	27.241	120.068
AUG	PEAK (KBTU)	211.069	343.937
	DY/HR	31/21	19/21
	TOTAL (MBTU)	25.054	101.538
SEP	PEAK (KBTU)	211.069	312.758
	DY/HR	30/ 8	30/21
	TOTAL (MBTU)	233.423	107.039
OCT	PEAK (KBTU)	1043.764	317.322
	DY/HR	28/ 8	31/21
	TOTAL (MBTU)	354.536	104.825
NOV	PEAK (KBTU)	1146.426	317.322
	DY/HR	22/ 6	30/21
	TOTAL (MBTU)	491.591	121.405
DEC	PEAK (KBTU)	1244.715	347.493
	DY/HR	28/ 7	30/21
	ONE YEAR	3272.166	1345.313
	USE/PEAK	1354.411	375.116

**COMPUTER SIMULATIONS**  
**BUILDING 10522**

**RUN 3 - DDC**

LDL PROCESSOR INPUT DATA

3/19/1995 11:41:17 LDL RUN . 1

```

* 3 *
* 4 *
* 5 *
* 6 *
* 7 *
* 8 *
* 9 *
* 10 *
* 11 * TITLE LINE-1 * EMC ENGINEERS INC. *
* 12 * LINE-2 *EZDOE - ELITE SOFTWARE DEVELOPMENT INC*
* 13 * LINE-3 * DENVER, CO 80227 *
* 14 *
* 15 * LINE-4 *BUILDING 10522, ENL PERS BRKS W/CA&S *
* 16 * LINE-5 *MODEL WITH SET BRKS AND DDC. * ..
* 17 *
* 18 * ABORT ERRORS ..
* 19 * DIAGNOSTIC WARNINGS ..
* 20 * LOADS-REPORT SUMMARY=(LS-A,LS-B,LS-C,LS-D,LS-E,LS-F,LS-G,
* 21 * LS-H,LS-I,LS-J,LS-K,LS-L) ..
* 22 * BUILDING-LOCATION LATITUDE = 44.0
* 23 * ALTITUDE = 655.
* 24 * AZIMUTH = -40.
* 25 * GROSS-AREA = 11544
* 26 * HOLIDAY = NO
* 27 * SHIELDING-COEF = 0.19
* 28 * X-REF = 0.0
* 29 * Y-REF = 0.0 ..
* 30 * RUN-PERIOD JAN 1 1994 THRU DEC 31 1994 ..
* 31 *
* 32 *
* 33 *
* 34 *
* 35 * FULL_OND =DAY-SCHEDULE (1,24) (1.) ..
* 36 *
* 37 * FULL_OFFD =DAY-SCHEDULE (1,24) (0.) ..
* 38 *
* 39 * PEOP_D_ADM =DAY-SCHEDULE (1,6) (0.)
* 40 * (7,10) (1.)
* 41 * (11,13) (0.8,0.4,0.8)
* 42 * (14,16) (1.)
* 43 * (17,21) (0.1)
* 44 * (22,24) (0.) ..
* 45 *
* 46 * EQP_D_ADM =DAY-SCHEDULE (1,2) (0.1)
* 47 * (3,6) (0.)
* 48 * (7,8) (0.3)
* 49 * (9,12) (0.2)
* 50 * (13) (0.3)
* 51 * (14,15) (0.1)
* 52 * (16) (0.2)
* 53 * (17,18) (0.3)
* 54 * (19,21) (0.7,1.,0.7)
* 55 * (22,24) (0.1) ..
* 56 *
* 57 * LT_OND_ADM =DAY-SCHEDULE (1,4) (0.)
* 58 * (5,6) (0.1)
* 59 * (7,8) (0.2)
* 60 * (9,13) (0.8)
* 61 * (14) (0.7)
* 62 * (15,16) (0.6)
* 63 * (17,18) (0.4,0.3)
* 64 * (19,24) (0.) ..
* 65 *
* 66 * LGHT_D_BRK =DAY-SCHEDULE (1,2) (0.1)
* 67 * (3,4) (0.)
* 68 * (5,6) (0.3)
* 69 * (7,8) (0.5)
* 70 * (9,10) (0.3)
* 71 * (11,12) (0.4)
* 72 * (13,16) (0.3)
* 73 * (17,18) (0.4)
* 74 * (19,20) (0.6)
* 75 * (21,22) (0.7)
* 76 * (23,24) (0.3) ..
* 77 *
* 78 * PEOP_D_BRK =DAY-SCHEDULE (1,5) (1.)
* 79 * (6,7) (0.8,0.5)
* 80 * (8,11) (0.1)
* 81 * (12,13) (0.2)
* 82 * (14,15) (0.1)
* 83 * (16,18) (0.4)
* 84 * (19,20) (0.6)
* 85 * (21) (0.8)
* 86 * (22,24) (1.) ..
* 87 *
* 88 * EQP_D_BRK =DAY-SCHEDULE (1) (0.2)
* 89 * (2,5) (0.1)
* 90 * (6,8) (0.3)
* 91 * (9) (0.2)
* 92 * (10,11) (0.1)
* 93 * (12,13) (0.3)
* 94 * (14,16) (0.2)
* 95 * (17,18) (0.5)
* 96 * (19,20) (0.7)
* 97 * (21,22) (0.8)
* 98 * (23,24) (0.7,0.5) ..
* 99 *
* 100 * PEOP_D_COR =DAY-SCHEDULE (1,5) (0.)
* 101 * (6,7) (0.3,0.5)
* 102 * (8,11) (0.1)

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* 103 * (12,13) (0.2)
* 104 * (14,15) (0.1)
* 105 * (16,18) (0.4)
* 106 * (19,22) (0.6,0.7,1.,0.9)
* 107 * (23,24) (0.8,0.5) ..
* 108 *
* 109 * HALF_FAN_D =DAY-SCHEDULE (1,24) (0.5) ..
* 110 *
* 111 * MAX_FAN_D =DAY-SCHEDULE (1,11)' (0.5)
* 112 * (12,21) (1.)
* 113 * (22,24) (0.5) ..
* 114 *
* 115 * DHW_D1 =DAY-SCHEDULE (1,5) (0.)
* 116 * (6,9) (1.)
* 117 * (10,20) (0.)
* 118 * (21,22) (1.)
* 119 * (23,24) (0.) ..
* 120 *
* 121 * DHW_D2 =DAY-SCHEDULE (1,5) (0.)
* 122 * (6,8) (1.)
* 123 * (9,20) (0.)
* 124 * (21,22) (1.,0.69)
* 125 * (23,24) (0.) ..
* 126 *
* 127 * DHW_D3 =DAY-SCHEDULE (1,5) (0.)
* 128 * (6,8) (1.)
* 129 * (9,20) (0.)
* 130 * (21,22) (1.,0.86)
* 131 * (23,24) (0.) ..
* 132 *
* 133 * DHW_D4 =DAY-SCHEDULE (1,5) (0.)
* 134 * (6,8) (1.)
* 135 * (9,20) (0.)
* 136 * (21,22) (1.,0.56)
* 137 * (23,24) (0.) ..
* 138 *
* 139 * DHW_D5 =DAY-SCHEDULE (1,5) (0.)
* 140 * (6,8) (1.)
* 141 * (9,20) (0.)
* 142 * (21,22) (1.,0.15)
* 143 * (23,24) (0.) ..
* 144 *
* 145 * DHW_D6 =DAY-SCHEDULE (1,5) (0.)
* 146 * (6,8) (1.)
* 147 * (9,20) (0.)
* 148 * (21) (0.95)
* 149 * (22,24) (0.) ..
* 150 *
* 151 * DHW_D7 =DAY-SCHEDULE (1,5) (0.)
* 152 * (6,8) (1.)
* 153 * (9,20) (0.)
* 154 * (21,22) (1.)
* 155 * (23) (0.21)
* 156 * (24) (0.) ..
* 157 *
* 158 * DHW_D8 =DAY-SCHEDULE (1,5) (0.)
* 159 * (6,8) (1.)
* 160 * (9,20) (0.)
* 161 * (21,22) (1.,0.07)
* 162 * (23,24) (0.) ..
* 163 *
* 164 * EQ_WINT_D =DAY-SCHEDULE (1) (0.2)
* 165 * (2,5) (0.1)
* 166 * (6,8) (0.3)
* 167 * (9) (0.2)
* 168 * (10,11) (0.1)
* 169 * (12,13) (0.3)
* 170 * (14,15) (0.2)
* 171 * (16,17) (0.8)
* 172 * (18,23) (1.)
* 173 * (24) (0.8) ..
* 174 *
* 175 *
* 176 * FULL_ONW =WEEK-SCHEDULE (ALL) FULL_OND ..
* 177 *
* 178 * FULL_OFFW =WEEK-SCHEDULE (ALL) FULL_OFFD ..
* 179 *
* 180 * LT_ONW_ADM =WEEK-SCHEDULE (WD) LT_OND_ADM
* 181 * (WEH) FULL_OFFD ..
* 182 *
* 183 * PEOP_W_ADM =WEEK-SCHEDULE (WD) PEOP_D_ADM
* 184 * (WEH) FULL_OFFD ..
* 185 *
* 186 * EQP_W_ADM =WEEK-SCHEDULE (WD) EQP_D_ADM
* 187 * (WEH) FULL_OFFD ..
* 188 *
* 189 * LGHT_W_BRK =WEEK-SCHEDULE (ALL) LGHT_D_BRK ..
* 190 *
* 191 * PEOP_W_BRK =WEEK-SCHEDULE (ALL) PEOP_D_BRK ..
* 192 *
* 193 * EQP_W_BRK =WEEK-SCHEDULE (ALL) EQP_D_BRK ..
* 194 *
* 195 * PEOP_W_COR =WEEK-SCHEDULE (ALL) PEOP_D_COR ..
* 196 *
* 197 * HALF_FAN_W =WEEK-SCHEDULE (ALL) HALF_FAN_D ..
* 198 *
* 199 * MAX_FAN_W =WEEK-SCHEDULE (ALL) MAX_FAN_D ..
* 200 *
* 201 * WINT_INF_W =WEEK-SCHEDULE (ALL) EQ_WINT_D ..
* 202 *
* 203 * DHW_W1 =WEEK-SCHEDULE (ALL) DHW_D1 ..
* 204 *
* 205 * DHW_W2 =WEEK-SCHEDULE (ALL) DHW_D2 ..
* 206 *
* 207 * DHW_W3 =WEEK-SCHEDULE (ALL) DHW_D3 ..
* 208 *
* 209 * DHW_W4 =WEEK-SCHEDULE (ALL) DHW_D4 ..
* 210 *

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* 211 * DHW_W5      =WEEK-SCHEDULE (ALL) DHW_D5 ..
* 212 *
* 213 * DHW_W6      =WEEK-SCHEDULE (ALL) DHW_D6 ..
* 214 *
* 215 * DHW_W7      =WEEK-SCHEDULE (ALL) DHW_D7 ..
* 216 *
* 217 * DHW_W8      =WEEK-SCHEDULE (ALL) DHW_D8 ..
* 218 *
* 219 * EQ_WINT_W    =WEEK-SCHEDULE (ALL) EQ_WINT_D ..
* 220 *
* 221 *
* 222 * $ FULL ON SCHEDULE
* 223 * FULL_ONY     =SCHEDULE THRU DEC 31 FULL_ONW ..
* 224 *
* 225 * $ FULL OFF SCHEDULE
* 226 * FULL_OFFY    =SCHEDULE THRU DEC 31 FULL_OFFW ..
* 227 *
* 228 * $ LIGHTING SCHED ADMIN
* 229 * LGHT_Y_ADM    =SCHEDULE THRU DEC 31 LT_ONW_ADM ..
* 230 *
* 231 * $ OCCUPANCY SCHED ADMIN
* 232 * PEOP_Y_ADM    =SCHEDULE THRU DEC 31 PEOP_W_ADM ..
* 233 *
* 234 * $ EQUIPMENT SCHED ADMIN
* 235 * EQP_Y_ADM      =SCHEDULE THRU DEC 31 EQP_W_ADM ..
* 236 *
* 237 * $ LIGHTING SCHED BARRACKS
* 238 * LGHT_Y_BRK    =SCHEDULE THRU DEC 31 LGHT_W_BRK ..
* 239 *
* 240 * $ OCCUPANCY SCHED BARRACK
* 241 * PEOP_Y_BRK    =SCHEDULE THRU DEC 31 PEOP_W_BRK ..
* 242 *
* 243 * $ EQUIPMENT SCHED BARRACK
* 244 * EQP_Y_BRK      =SCHEDULE THRU FEB 28 EQ_WINT_W
* 245 *                      THRU DEC 1 EQP_W_BRK
* 246 *                      THRU DEC 31 EQ_WINT_W ..
* 247 *
* 248 * $ OCCUP, CORE AREA OF BRK
* 249 * PEOP_Y_COR    =SCHEDULE THRU DEC 31 PEOP_W_COR ..
* 250 *
* 251 * $ VENTILATION SCHED
* 252 * VENT_SCHED     =SCHEDULE THRU JUN 20 FULL_OFFW
* 253 *                      THRU JUN 25 HALF_FAN_W
* 254 *                      THRU JUL 4 MAX_FAN_W
* 255 *                      THRU AUG 20 HALF_FAN_W
* 256 *                      THRU DEC 31 FULL_OFFW ..
* 257 *
* 258 * $ INFILTRATION SCHEDULE
* 259 * INFL_SCHED     =SCHEDULE THRU DEC 31 FULL_ONW ..
* 260 *
* 261 * $ DHW SCHEDULE
* 262 * DHW_SCHED      =SCHEDULE THRU MAR 1 DHW_W1
* 263 *                      THRU MAY 1 DHW_W2
* 264 *                      THRU JUN 1 DHW_W3
* 265 *                      THRU AUG 1 DHW_W4
* 266 *                      THRU SEP 1 DHW_W5
* 267 *                      THRU OCT 1 DHW_W6
* 268 *                      THRU NOV 1 DHW_W7
* 269 *                      THRU DEC 1 DHW_W8
* 270 *                      THRU DEC 31 DHW_W1 ..
* 271 *
* 272 *
* 273 *
* 274 *
* 275 * $ CONSTRUCTION TYPES
* 276 * WALLP_1        =WALL-PARAMETERS FOR INTERIOR-WALL
* 277 *                      CHANNEL-WIDTH = 0.33
* 278 *                      AIR-FLOW-TYPE = FREE-DOORWAY
* 279 *                      AIR-FLOW-CTRL-DT = 3.00
* 280 *                      DOORWAY-W = 7.00 ..
* 281 *
* 282 *
* 283 * DOORCON        =CONSTRUCTION U-VALUE = 1.130 ..
* 284 * ROOFCON        =CONSTRUCTION U-VALUE = 0.050 ..
* 285 * EXWALL        =CONSTRUCTION U-VALUE = 0.200 ..
* 286 * FLOORCON       =CONSTRUCTION U-VALUE = 0.100 ..
* 287 * INWALL        =CONSTRUCTION U-VALUE = 0.500
* 288 *                      WALL-PARAMETERS = WALLP_1 ..
* 289 *
* 290 * SKYLIGHT       =GLASS-TYPE GLASS-TYPE-CODE = 5
* 291 *                      PANES = 2
* 292 *                      GLASS-CONDUCTANCE = 0.490 ..
* 293 * WNDW          =GLASS-TYPE GLASS-TYPE-CODE = 4
* 294 *                      PANES = 1
* 295 *                      GLASS-CONDUCTANCE = 1.130 ..
* 296 * DOORGLSS      =GLASS-TYPE GLASS-TYPE-CODE = 3
* 297 *                      PANES = 1
* 298 *                      GLASS-CONDUCTANCE = 1.130 ..
* 299 *
* 300 *
* 301 *
* 302 *
* 303 * $ SPACE DESCRIPTION
* 304 *
* 305 * ADMIN_LEFT     =SPACE AREA = 4740.0 VOLUME = 42660.0
* 306 *                      AZIMUTH = 270 ZONE-TYPE = CONDITIONED
* 307 *                      PEOPLE-SCHEDULE = PEOP_Y_ADM NUMBER-OF-PEOPLE = 33.0
* 308 *                      PEOPLE-HEAT-GAIN = 475.0
* 309 *                      LIGHTING-TYPE = REC-FLUOR-RV LIGHTING-KW = 5.44
* 310 *                      LIGHTING-SCHEDULE = LGHT_Y_ADM
* 311 *                      EQUIP-SCHEDULE = EQP_Y_ADM EQUIPMENT-KW = 3.16
* 312 *                      INF-METHOD = AIR-CHANGE AIR-CHANGES/HR = 0.1
* 313 *                      INF-SCHEDULE = INFL_SCHED ..
* 314 *
* 315 * ROOF           HEIGHT = 60.0 WIDTH = 79.0 CONS = ROOFCON
* 316 *                      AZIMUTH = 270 TILT = 0 ..
* 317 *
* 318 * U-W            HEIGHT = 60.0 WIDTH = 79.0 CONS = FLOORCON

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* 319 *          AZIMUTH = 270 ..
* 320 *
* 321 *      E-W      HEIGHT = 10.0 WIDTH = 60.0 CONS = EXWALL
* 322 *          AZIMUTH = 180 ..
* 323 *
* 324 *      E-W      HEIGHT = 10.0 WIDTH = 79.0 CONS = EXWALL
* 325 *          AZIMUTH = 90 ..
* 326 *
* 327 *      DOOR     HEIGHT = 7.5 WIDTH = 3.0 CONS = DOORCON
* 328 *          MULTIPLIER = 9.0 ..
* 329 *
* 330 *      WINDOW    HEIGHT = 3.0 WIDTH = 3.0 G-T = WNDW
* 331 *          MULTIPLIER = 4.0 ..
* 332 *
* 333 *      WINDOW    HEIGHT = 5.5 WIDTH = 3.0 G-T = WNDW ..
* 334 *
* 335 *      E-W      HEIGHT = 10.0 WIDTH = 79.0 CONS = EXWALL
* 336 *          AZIMUTH = 270 ..
* 337 *
* 338 *      WINDOW    HEIGHT = 3.0 WIDTH = 3.0 G-T = WNDW
* 339 *          MULTIPLIER = 4.0 ..
* 340 *
* 341 *      DOOR     HEIGHT = 7.5 WIDTH = 3.0 CONS = DOORCON ..
* 342 *
* 343 *
* 344 *  ADMIN_CNTR =SPACE  AREA = 5230.0 VOLUME = 47070.0
* 345 *          AZIMUTH = 270 TEMPERATURE = (68.)
* 346 *      ZONE-TYPE = CONDITIONED PEOPLE-SCHEDULE = PROP_Y_ADM
* 347 *      NUMBER-OF-PEOPLE = 33.0 PEOPLE-HEAT-GAIN = 475.0
* 348 *      LIGHTING-TYPE = REC-FLUOR-RV LIGHTING-KW = 5.76
* 349 *      LIGHTING-SCHEDULE = LGHT_Y_ADM
* 350 *      EQUIP-SCHEDULE = EQP_Y_ADM EQUIPMENT-KW = 3.16
* 351 *      SOURCE-SCHEDULE = VENT_SCHED SOURCE-TYPE = ELECTRIC
* 352 *      SOURCE-BTU/HR = 31813.0 SOURCE-SENSIBLE = 0.0
* 353 *      INF-METHOD = AIR-CHANGE AIR-CHANGES/HR = 0.25
* 354 *      INF-SCHEDULE = INFL_SCHED ..
* 355 *
* 356 *      ROOF      HEIGHT = 87.2 WIDTH = 60.0 CONS = ROOFCON
* 357 *          AZIMUTH = 270 TILT = 0 ..
* 358 *
* 359 *      U-W      HEIGHT = 87.2 WIDTH = 60.0 CONS = FLOORCON
* 360 *          AZIMUTH = 270 ..
* 361 *
* 362 *      E-W      HEIGHT = 10.0 WIDTH = 60.0 CONS = EXWALL
* 363 *          AZIMUTH = 90 ..
* 364 *
* 365 *      E-W      HEIGHT = 10.0 WIDTH = 32.0 CONS = EXWALL
* 366 *          AZIMUTH = 180 ..
* 367 *
* 368 *      E-W      HEIGHT = 10.0 WIDTH = 32.0 CONS = EXWALL
* 369 *          AZIMUTH = 0 ..
* 370 *
* 371 *      E-W      HEIGHT = 10.0 WIDTH = 49.0 CONS = EXWALL
* 372 *          AZIMUTH = 270 ..
* 373 *
* 374 *      DOOR     HEIGHT = 7.5 WIDTH = 3.0 CONS = DOORCON
* 375 *          MULTIPLIER = 3.0 ..
* 376 *
* 377 *      WINDOW    HEIGHT = 3.0 WIDTH = 3.0 G-T = WNDW
* 378 *          MULTIPLIER = 3.0 ..
* 379 *
* 380 *      I-W      HEIGHT = 9.0 WIDTH = 60.0 CONS = INWALL
* 381 *          AZIMUTH = 180 NEXT-TO = ADMIN_LEFT ..
* 382 *
* 383 *      I-W      HEIGHT = 9.0 WIDTH = 60.0 CONS = INWALL
* 384 *          NEXT-TO = ADMIN_RGHT ..
* 385 *
* 386 *
* 387 *  ADMIN_RGHT =SPACE  AREA = 4740.0 VOLUME = 42660.0
* 388 *          AZIMUTH = 270 TEMPERATURE = (68.)
* 389 *      ZONE-TYPE = CONDITIONED PEOPLE-SCHEDULE = PROP_Y_ADM
* 390 *      NUMBER-OF-PEOPLE = 33.0 PEOPLE-HEAT-GAIN = 475.0
* 391 *      LIGHTING-TYPE = REC-FLUOR-RV LIGHTING-KW = 5.68
* 392 *      LIGHTING-SCHEDULE = LGHT_Y_ADM
* 393 *      EQUIP-SCHEDULE = EQP_Y_ADM EQUIPMENT-KW = 3.16
* 394 *      INF-METHOD = AIR-CHANGE AIR-CHANGES/HR = 0.1
* 395 *      INF-SCHEDULE = INFL_SCHED ..
* 396 *
* 397 *      ROOF      HEIGHT = 60.0 WIDTH = 79.0 CONS = ROOFCON
* 398 *          AZIMUTH = 270 TILT = 0 ..
* 399 *
* 400 *      U-W      HEIGHT = 60.0 WIDTH = 79.0 CONS = FLOORCON
* 401 *          AZIMUTH = 270 ..
* 402 *
* 403 *      E-W      HEIGHT = 10.0 WIDTH = 79.0 CONS = EXWALL
* 404 *          AZIMUTH = 90 ..
* 405 *
* 406 *      DOOR     HEIGHT = 7.5 WIDTH = 3.0 CONS = DOORCON
* 407 *          MULTIPLIER = 9.0 ..
* 408 *
* 409 *      WINDOW    HEIGHT = 3.0 WIDTH = 3.0 G-T = WNDW
* 410 *          MULTIPLIER = 4.0 ..
* 411 *
* 412 *      WINDOW    HEIGHT = 5.5 WIDTH = 3.0 G-T = WNDW ..
* 413 *
* 414 *      E-W      HEIGHT = 10.0 WIDTH = 60.0 CONS = EXWALL
* 415 *          AZIMUTH = 0 ..
* 416 *
* 417 *      E-W      HEIGHT = 10.0 WIDTH = 60.0 CONS = EXWALL
* 418 *          AZIMUTH = 270 ..
* 419 *
* 420 *      WINDOW    HEIGHT = 3.0 WIDTH = 3.0 G-T = WNDW
* 421 *          MULTIPLIER = 4.0 ..
* 422 *
* 423 *      DOOR     HEIGHT = 7.5 WIDTH = 3.0 CONS = DOORCON ..
* 424 *
* 425 *
* 426 *  BRKS_CORE =SPACE  AREA = 5392.0 VOLUME = 48528.0

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* 427 *      AZIMUTH = 270  TEMPERATURE = (68.)
* 428 *      ZONE-TYPE = CONDITIONED  PEOPLE-SCHEDULE = PEOP_Y_COR
* 429 *      NUMBER-OF-PEOPLE = 40.0  PEOPLE-HEAT-GAIN = 500.0
* 430 *      LIGHTING-TYPE = REC-FLUOR-RV  LIGHTING-KW = 3.44
* 431 *      LIGHTING-SCHEDULE = LGHT_Y_BRK
* 432 *      EQUIP-SCHEDULE = PEOP_Y_COR  EQUIPMENT-KW = 33.0
* 433 *      EQUIP-SENSIBLE = 0.05  SOURCE-SCHEDULE = VENT_SCHED
* 434 *      SOURCE-TYPE = ELECTRIC  SOURCE-BTU/HR = 10545.0
* 435 *      SOURCE-SENSIBLE = 0.0  INF-METHOD = AIR-CHANGE
* 436 *      AIR-CHANGES/HR = 0.75  INF-SCHEDULE = INFL_SCHED ..
* 437 *
* 438 *      ROOF  HEIGHT = 73.4  WIDTH = 73.4  CONS = ROOFCON
* 439 *      AZIMUTH = 45  TILT = 0 ..
* 440 *
* 441 *      U-W  HEIGHT = 73.4  WIDTH = 73.4  CONS = FLOORCON
* 442 *      AZIMUTH = 45 ..
* 443 *
* 444 *      E-W  HEIGHT = 20.0  WIDTH = 37.5  CONS = EXWALL
* 445 *      AZIMUTH = 135 ..
* 446 *
* 447 *      WINDOW HEIGHT = 2.7  WIDTH = 2.6  G-T = WNDW
* 448 *      MULTIPLIER = 7.0 ..
* 449 *
* 450 *      E-W  HEIGHT = 20.0  WIDTH = 37.5  CONS = EXWALL
* 451 *      AZIMUTH = 45 ..
* 452 *
* 453 *      WINDOW HEIGHT = 2.7  WIDTH = 2.6  G-T = WNDW
* 454 *      MULTIPLIER = 7.0 ..
* 455 *
* 456 *      DOOR  HEIGHT = 7.5  WIDTH = 3.0  CONS = DOORCON
* 457 *      MULTIPLIER = 2.0 ..
* 458 *
* 459 *      E-W  HEIGHT = 20.0  WIDTH = 10.0  CONS = EXWALL
* 460 *      AZIMUTH = 270 ..
* 461 *
* 462 *      WINDOW HEIGHT = 4.0  WIDTH = 4.0  G-T = WNDW ..
* 463 *
* 464 *      DOOR  HEIGHT = 7.5  WIDTH = 3.0  CONS = DOORCON
* 465 *      MULTIPLIER = 2.0 ..
* 466 *
* 467 *
* 468 *  BRKS_RIGHT =SPACE  AREA = 8840.0  VOLUME = 79560.0
* 469 *      AZIMUTH = 225  TEMPERATURE = (75.)
* 470 *      ZONE-TYPE = CONDITIONED  PEOPLE-SCHEDULE = PEOP_Y_BRK
* 471 *      NUMBER-OF-PEOPLE = 56.0  PEOPLE-HEAT-GAIN = 500.0
* 472 *      LIGHTING-TYPE = REC-FLUOR-RV  LIGHTING-KW = 6.72
* 473 *      LIGHTING-SCHEDULE = LGHT_Y_BRK
* 474 *      EQUIP-SCHEDULE = EQP_Y_BRK  EQUIPMENT-KW = 18.2
* 475 *      SOURCE-SCHEDULE = DHW_SCHED  SOURCE-TYPE = HOT-WATER
* 476 *      SOURCE-BTU/HR = 86936.0  SOURCE-SENSIBLE = 0.0
* 477 *      INF-METHOD = AIR-CHANGE  AIR-CHANGES/HR = 1.0
* 478 *      INF-SCHEDULE = INFL_SCHED ..
* 479 *
* 480 *      ROOF  HEIGHT = 43.3  WIDTH = 102.0  CONS = ROOFCON
* 481 *      AZIMUTH = 225  TILT = 0 ..
* 482 *
* 483 *      U-W  HEIGHT = 43.3  WIDTH = 102.0  CONS = FLOORCON
* 484 *      AZIMUTH = 225 ..
* 485 *
* 486 *      E-W  HEIGHT = 20.0  WIDTH = 102.0  CONS = EXWALL
* 487 *      AZIMUTH = 225 ..
* 488 *
* 489 *      E-W  HEIGHT = 20.0  WIDTH = 102.0  CONS = EXWALL
* 490 *      AZIMUTH = 45 ..
* 491 *
* 492 *      WINDOW HEIGHT = 4.0  WIDTH = 4.0  G-T = WNDW
* 493 *      MULTIPLIER = 16.0 ..
* 494 *
* 495 *      WINDOW HEIGHT = 4.0  WIDTH = 4.0  G-T = WNDW
* 496 *      MULTIPLIER = 14.0 ..
* 497 *
* 498 *      E-W  HEIGHT = 20.0  WIDTH = 43.3  CONS = EXWALL
* 499 *      AZIMUTH = 315 ..
* 500 *
* 501 *      DOOR  HEIGHT = 7.5  WIDTH = 3.0  CONS = DOORCON ..
* 502 *
* 503 *
* 504 *  BRKS_LEFT =SPACE  AREA = 8840.0  VOLUME = 120402.0
* 505 *      AZIMUTH = 315  TEMPERATURE = (75.)
* 506 *      ZONE-TYPE = CONDITIONED  PEOPLE-SCHEDULE = PEOP_Y_BRK
* 507 *      NUMBER-OF-PEOPLE = 80.0  PEOPLE-HEAT-GAIN = 500.0
* 508 *      LIGHTING-TYPE = REC-FLUOR-RV  LIGHTING-KW = 9.6
* 509 *      LIGHTING-SCHEDULE = LGHT_Y_BRK
* 510 *      EQUIP-SCHEDULE = EQP_Y_BRK  EQUIPMENT-KW = 26.0
* 511 *      SOURCE-SCHEDULE = DHW_SCHED  SOURCE-TYPE = HOT-WATER
* 512 *      SOURCE-BTU/HR = 124133.0  SOURCE-SENSIBLE = 0.0
* 513 *      INF-METHOD = AIR-CHANGE  AIR-CHANGES/HR = 1.0
* 514 *      INF-SCHEDULE = INFL_SCHED ..
* 515 *
* 516 *      ROOF  HEIGHT = 49.0  WIDTH = 136.5  CONS = ROOFCON
* 517 *      AZIMUTH = 315  TILT = 0 ..
* 518 *
* 519 *      U-W  HEIGHT = 49.0  WIDTH = 136.5  CONS = FLOORCON
* 520 *      AZIMUTH = 315 ..
* 521 *
* 522 *      E-W  HEIGHT = 20.0  WIDTH = 136.5  CONS = EXWALL
* 523 *      AZIMUTH = 135 ..
* 524 *
* 525 *      WINDOW HEIGHT = 4.0  WIDTH = 4.0  G-T = WNDW
* 526 *      MULTIPLIER = 20.0 ..
* 527 *
* 528 *      E-W  HEIGHT = 20.0  WIDTH = 136.5  CONS = EXWALL
* 529 *      AZIMUTH = 315 ..
* 530 *
* 531 *      WINDOW HEIGHT = 4.0  WIDTH = 4.0  G-T = WNDW
* 532 *      MULTIPLIER = 22.0 ..
* 533 *
* 534 *      E-W  HEIGHT = 20.0  WIDTH = 49.0  CONS = EXWALL

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* 535 *           AZIMUTH = 225  ..
* 536 *
* 537 *           DOOR  HEIGHT = 7.5  WIDTH = 3.0  CONS = DOORCON ..
* 538 *
* 539 *
* 540 * MECH_ROOM  =SPACE  AREA = 400.0  VOLUME = 4000.0
* 541 *           ZONE-TYPE = CONDITIONED  AREA/PERSON = 100.0
* 542 *           INF-METHOD = AIR-CHANGE  AIR-CHANGES/HR = 2.5
* 543 *           INF-SCHEDULE = FULL_ONLY  ..
* 544 *
* 545 *           E-W    HEIGHT = 10.0  WIDTH = 20.0  CONS = EXWALL
* 546 *           AZIMUTH = 225  ..
* 547 *
* 548 *           DOOR  HEIGHT = 7.5  WIDTH = 3.0  CONS = DOORCON
* 549 *           MULTIPLIER = 2.0  ..
* 550 *
* 551 *
* 552 * END  ..
* 553 * COMPUTE LOADS  ..
* 554 *
* 555 * INPUT SYSTEMS  ..

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# SDL PROCESSOR INPUT DATA

3/19/1995 11:41:17 SDL RUN 1

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* 556 *
* 557 *
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* 560 *
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* 562 *
* 563 *
* 564 * TITLE LINE-1 * EMC ENGINEERS INC. *
* 565 * LINE-2 * BZDOE - ELITE SOFTWARE DEVELOPMENT INC *
* 566 * LINE-3 * DENVER, CO 80227 *
* 567 *
* 568 * LINE-4 * BUILDING 10522, ENL PERS BRKS W/CA&S *
* 569 * LINE-5 * MODEL WITH SET BACK AND DDC *
* 570 * ABORT ERRORS
* 571 * DIAGNOSTIC WARNINGS
* 572 * SYSTEMS-REPORT SUMMARY=(SS-A,SS-B,SS-C,SS-F,SS-G,SS-H,SS-I,
* 573 * SS-J,SS-K,SS-L,SS-M,SS-N,SS-O)
* 574 *
* 575 *
* 576 *
* 577 * $ SCHEDULES
* 578 *
* 579 * FULL_OND =DAY-SCHEDULE (1,24) (1.) ..
* 580 * FULL_OFFD =DAY-SCHEDULE (1,24) (0.) ..
* 581 * HIGH_HT_D =DAY-SCHEDULE (1,24) (68.) ..
* 582 * LOW_HT_D =DAY-SCHEDULE (1,24) (55.) ..
* 583 * BRKS_HT_D =DAY-SCHEDULE (1,24) (68.) ..
* 584 * FAN_WSB_D =DAY-SCHEDULE (1,4) (0.)
* 585 * (5,16) (1.)
* 586 * (17,24) (0.) ..
* 587 * HT68_WSB_D =DAY-SCHEDULE (1,4) (50.)
* 588 * (5,16) (68.)
* 589 * (17,24) (50.) ..
* 590 * HEAT_50_D =DAY-SCHEDULE (1,24) (50.) ..
* 591 *
* 592 * FULL_ONW =WEEK-SCHEDULE (ALL) FULL_OND ..
* 593 * FULL_OFFW =WEEK-SCHEDULE (ALL) FULL_OFFD ..
* 594 * HIGH_HT_W =WEEK-SCHEDULE (ALL) HIGH_HT_D ..
* 595 * LOW_HT_W =WEEK-SCHEDULE (ALL) LOW_HT_D ..
* 596 * BARKS_HT_W =WEEK-SCHEDULE (ALL) BRKS_HT_D ..
* 597 *
* 598 * FAN_WSB_W =WEEK-SCHEDULE (WD) FAN_WSB_D
* 599 * (SAT) FULL_OFFD
* 600 * (SUN) FULL_OFFD
* 601 * (HOL) FAN_WSB_D ..
* 602 *
* 603 * HT68_WSB_W =WEEK-SCHEDULE (WD) HT68_WSB_D
* 604 * (SAT) HEAT_50_D
* 605 * (SUN) HEAT_50_D
* 606 * (HOL) HT68_WSB_D ..
* 607 *
* 608 *
* 609 *
* 610 *
* 611 * $ FULL ON SCHEDULE
* 612 * FULL_ONY =SCHEDULE THRU DEC 31 FULL_ONW ..
* 613 *
* 614 * $ FULL OFF SCHEDULE
* 615 * FULL_OFFY =SCHEDULE THRU DEC 31 FULL_OFFW ..
* 616 *
* 617 * $ AHU1 HEATING SCHEDULE
* 618 * HIGH_HT =SCHEDULE THRU MAY 31 HIGH_HT_W
* 619 * THRU OCT 1 FULL_OFFW
* 620 * THRU DEC 31 HIGH_HT_W ..
* 621 *
* 622 * $ AHU2 HEAT SCHEDULE
* 623 * LOW_HT =SCHEDULE THRU MAY 31 LOW_HT_W
* 624 * THRU OCT 1 FULL_OFFW
* 625 * THRU DEC 31 LOW_HT_W ..
* 626 *
* 627 * $ BARRACKS HEATING SCHED
* 628 * BRKS_HEAT =SCHEDULE THRU MAY 31 BARKS_HT_W
* 629 * THRU OCT 1 FULL_OFFW
* 630 * THRU DEC 31 BARKS_HT_W ..
* 631 *
* 632 * FAN_W_SB =SCHEDULE THRU DEC 31 FAN_WSB_W ..
* 633 *
* 634 * HT_68_W_SB =SCHEDULE THRU DEC 31 HT68_WSB_W ..
* 635 *
* 636 *
* 637 *
* 638 *
* 639 *
* 640 * $ ZONE DESCRIPTION
* 641 *
* 642 * ADMIN_LEFT =ZONE DESIGN-HEAT-T = 68.0 DESIGN-COOL-T = 75.0
* 643 * HEAT-TEMP-SCH = HT_68_W_SB ZONE-TYPE = CONDITIONED
* 644 * THERMOSTAT-TYPE = PROPORTIONAL
* 645 * BASEBOARD-CTRL = THERMOSTATIC
* 646 * BASEBOARD-RATING = -66265. ASSIGNED-CFM = 770.
* 647 * OUTSIDE-AIR-CFM = 770. SIZING-OPTION = FROM-LOADS
* 648 * RATED-CFM = 770.0 MIN-CFM-RATIO = 1.0
* 649 * EXHAUST-CFM = 770.0 HEATING-CAPACITY = -62370.0 ..
* 650 *
* 651 * ADMIN_CNTR =ZONE DESIGN-HEAT-T = 68.0 DESIGN-COOL-T = 75.0
* 652 * HEAT-TEMP-SCH = HT_68_W_SB ZONE-TYPE = CONDITIONED
* 653 * THERMOSTAT-TYPE = PROPORTIONAL
* 654 * BASEBOARD-CTRL = THERMOSTATIC
* 655 * BASEBOARD-RATING = -56819. ASSIGNED-CFM = 770.
* 656 * OUTSIDE-AIR-CFM = 770. SIZING-OPTION = FROM-LOADS
* 657 * RATED-CFM = 770.0 MIN-CFM-RATIO = 1.0

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* 556 * EXHAUST-CFM = 770.0 HEATING-CAPACITY = -62370.0 ..
* 557 *
* 558 * ADMIN_RGHT =ZONE DESIGN-HEAT-T = 68.0 DESIGN-COOL-T = 80.0
* 559 * HEAT-TEMP-SCH = HT 68 W SB ZONE-TYPE = CONDITIONED
* 560 * THERMOSTAT-TYPE = PROPORTIONAL
* 561 * BASEBOARD-CTRL = THERMOSTATIC
* 562 * BASEBOARD-RATING = -66265. ASSIGNED-CFM = 770.
* 563 * OUTSIDE-AIR-CFM = 770. SIZING-OPTION = FROM-LOADS
* 564 * RATED-CFM = 770.0 MIN-CFM-RATIO = 1.0
* 565 * EXHAUST-CFM = 770.0 HEATING-CAPACITY = -62370.0 ..
* 566 *
* 567 * BRKS_CORE =ZONE DESIGN-HEAT-T = 74.0 DESIGN-COOL-T = 80.0
* 568 * HEAT-TEMP-SCH = HIGH HT ZONE-TYPE = CONDITIONED
* 569 * THERMOSTAT-TYPE = PROPORTIONAL
* 570 * BASEBOARD-CTRL = THERMOSTATIC
* 571 * BASEBOARD-RATING = -97709. ASSIGNED-CFM = 10.
* 572 * SIZING-OPTION = FROM-LOADS RATED-CFM = 10.0
* 573 * MIN-CFM-RATIO = 1.0 HEATING-CAPACITY = -1.0 ..
* 574 *
* 575 * BRKS_RIGHT =ZONE DESIGN-HEAT-T = 74.0 DESIGN-COOL-T = 80.0
* 576 * HEAT-TEMP-SCH = BRKS_HEAT ZONE-TYPE = CONDITIONED
* 577 * THERMOSTAT-TYPE = PROPORTIONAL
* 578 * BASEBOARD-CTRL = THERMOSTATIC
* 579 * BASEBOARD-RATING = -134470. ASSIGNED-CFM = 1060.
* 580 * OUTSIDE-AIR-CFM = 1060. SIZING-OPTION = FROM-LOADS
* 581 * RATED-CFM = 1060.0 MIN-CFM-RATIO = 1.0
* 582 * EXHAUST-CFM = 1060.0 HEATING-CAPACITY = -85860.0 ..
* 583 *
* 584 * BRKS_LEFT =ZONE DESIGN-HEAT-T = 74.0 DESIGN-COOL-T = 80.0
* 585 * HEAT-TEMP-SCH = BRKS_HEAT ZONE-TYPE = CONDITIONED
* 586 * THERMOSTAT-TYPE = PROPORTIONAL
* 587 * BASEBOARD-CTRL = THERMOSTATIC
* 588 * BASEBOARD-RATING = -193073. ASSIGNED-CFM = 1300.
* 589 * OUTSIDE-AIR-CFM = 1300. SIZING-OPTION = FROM-LOADS
* 590 * RATED-CFM = 1300.0 MIN-CFM-RATIO = 1.0
* 591 * EXHAUST-CFM = 1300.0 HEATING-CAPACITY = -105300.0 ..
* 592 *
* 593 * MECH_ROOM =ZONE DESIGN-HEAT-T = 60.0 DESIGN-COOL-T = 80.0
* 594 * HEAT-TEMP-SCH = LOW HT ZONE-TYPE = CONDITIONED
* 595 * THERMOSTAT-TYPE = PROPORTIONAL
* 596 * BASEBOARD-CTRL = THERMOSTATIC
* 597 * BASEBOARD-RATING = -37899. ASSIGNED-CFM = 1230.
* 598 * SIZING-OPTION = FROM-LOADS RATED-CFM = 1230.0
* 599 * HEATING-CAPACITY = -5560.0 ..
* 600 *
* 601 *
* 602 * $ SYSTEM DESCRIPTION
* 603 *
* 604 * AHU_1 =SYSTEM SYSTEM-TYPE = HVSYS
* 605 * MAX-SUPPLY-T = 135.0 HEATING-SCHEDULE = HIGH_HT
* 606 * MIN-HUMIDITY = 30.0 ECONO-LIMIT-T = 65.0
* 607 * ECONO-LOW-LIMIT = 55.0 HEAT-CONTROL = COLDEST
* 608 * OA-CONTROL = FIXED SUPPLY-CFM = 770.
* 609 * RATED-CFM = 770. MIN-OUTSIDE-AIR = 1.0
* 610 * FAN-SCHEDULE = FAN W SB SUPPLY-DELTA-T = 2.4
* 611 * SUPPLY-KW = 0.00078 NIGHT-CYCLE-CTRL = CYCLE-ON-ANY
* 612 * NIGHT-VENT-DT = 0.0 HEATING-CAPACITY = -62370.
* 613 * FURNACE-AUX = 0.
* 614 * ZONE-NAMES = (ADMIN_LEFT) ..
* 615 *
* 616 * AHU_4 =SYSTEM SYSTEM-TYPE = HVSYS
* 617 * MAX-SUPPLY-T = 135.0 HEATING-SCHEDULE = HIGH_HT
* 618 * MIN-HUMIDITY = 30.0 ECONO-LIMIT-T = 65.0
* 619 * ECONO-LOW-LIMIT = 55.0 HEAT-CONTROL = COLDEST
* 620 * OA-CONTROL = FIXED SUPPLY-CFM = 770.
* 621 * RATED-CFM = 770. MIN-OUTSIDE-AIR = 1.0
* 622 * FAN-SCHEDULE = FAN W SB SUPPLY-DELTA-T = 2.4
* 623 * SUPPLY-KW = 0.00078 NIGHT-CYCLE-CTRL = CYCLE-ON-ANY
* 624 * NIGHT-VENT-DT = 0.0 HEATING-CAPACITY = -62370.
* 625 * FURNACE-AUX = 0.
* 626 * ZONE-NAMES = (ADMIN_RIGHT) ..
* 627 *
* 628 * AHU_5 =SYSTEM SYSTEM-TYPE = HVSYS
* 629 * MAX-SUPPLY-T = 135.0 HEATING-SCHEDULE = BRKS_HEAT
* 630 * MIN-HUMIDITY = 30.0 ECONO-LIMIT-T = 65.0
* 631 * ECONO-LOW-LIMIT = 55.0 HEAT-CONTROL = COLDEST
* 632 * OA-CONTROL = FIXED SUPPLY-CFM = 1300.
* 633 * RATED-CFM = 1300. MIN-OUTSIDE-AIR = 1.0
* 634 * SUPPLY-DELTA-T = 2.4 SUPPLY-KW = 0.00078
* 635 * NIGHT-CYCLE-CTRL = STAY-OFF NIGHT-VENT-DT = 0.0
* 636 * HEATING-CAPACITY = -105300. FURNACE-AUX = 0.
* 637 * ZONE-NAMES = (BRKS_LEFT) ..
* 638 *
* 639 * AHU_6 =SYSTEM SYSTEM-TYPE = HVSYS
* 640 * MAX-SUPPLY-T = 135.0 HEATING-SCHEDULE = BRKS_HEAT
* 641 * MIN-HUMIDITY = 30.0 ECONO-LIMIT-T = 65.0
* 642 * ECONO-LOW-LIMIT = 55.0 HEAT-CONTROL = COLDEST
* 643 * OA-CONTROL = FIXED SUPPLY-CFM = 1060.
* 644 * RATED-CFM = 1060. MIN-OUTSIDE-AIR = 1.0
* 645 * SUPPLY-DELTA-T = 2.4 SUPPLY-KW = 0.00078
* 646 * NIGHT-CYCLE-CTRL = STAY-OFF NIGHT-VENT-DT = 0.0
* 647 * HEATING-CAPACITY = -85860. FURNACE-AUX = 0.
* 648 * ZONE-NAMES = (BRKS_RIGHT) ..
* 649 *
* 650 * AHU_3 =SYSTEM SYSTEM-TYPE = HVSYS
* 651 * MAX-SUPPLY-T = 135.0 HEATING-SCHEDULE = HIGH_HT
* 652 * MIN-HUMIDITY = 30.0 ECONO-LIMIT-T = 65.0
* 653 * ECONO-LOW-LIMIT = 55.0 HEAT-CONTROL = COLDEST
* 654 * OA-CONTROL = FIXED SUPPLY-CFM = 10.
* 655 * RATED-CFM = 10. MIN-OUTSIDE-AIR = 1.0
* 656 * SUPPLY-DELTA-T = 2.4 SUPPLY-KW = 0.00078
* 657 * NIGHT-CYCLE-CTRL = STAY-OFF NIGHT-VENT-DT = 0.0
* 658 * HEATING-CAPACITY = -1. FURNACE-AUX = 0.
* 659 * ZONE-NAMES = (BRKS_CORE) ..
* 660 *
* 661 * AHU_2 =SYSTEM SYSTEM-TYPE = HVSYS
* 662 * MAX-SUPPLY-T = 135.0 HEATING-SCHEDULE = HIGH_HT
* 663 * MIN-HUMIDITY = 30.0 ECONO-LIMIT-T = 65.0

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* 764 *      ECONO-LOW-LIMIT = 55.0  HEAT-CONTROL = COLDEST
* 765 *      OA-CONTROL = FIXED  SUPPLY-CFM = 770.
* 766 *      RATED-CFM = 770.  MIN-OUTSIDE-AIR = 1.0
* 767 *      FAN-SCHEDULE = FAN_W_SB  SUPPLY-DELTA-T = 2.4
* 768 *      SUPPLY-KW = 0.00078  NIGHT-CYCLE-CTRL = CYCLE-ON-ANY
* 769 *      NIGHT-VENT-DT = 0.0  HEATING-CAPACITY = -62370.
* 770 *      FURNACE-AUX = 0.
* 771 *      ZONE-NAMES = (ADMIN_CNTR)  ..
* 772 *
* 773 *  AHU_7      =SYSTEM  SYSTEM-TYPE = HVSYS
* 774 *      MAX-SUPPLY-T = 135.0  HEATING-SCHEDULE = LOW_HT
* 775 *      MIN-HUMIDITY = 30.0  ECONO-LIMIT-T = 65.0
* 776 *      ECONO-LOW-LIMIT = 55.0  HEAT-CONTROL = COLDEST
* 777 *      OA-CONTROL = FIXED  SUPPLY-CFM = 1230.
* 778 *      RETURN-CFM = 1230.  RATED-CFM = 1230.
* 779 *      MAX-OA-FRACTION = 0.0  SUPPLY-DELTA-T = 2.4
* 780 *      SUPPLY-KW = 0.00078  NIGHT-CYCLE-CTRL = STAY-OFF
* 781 *      NIGHT-VENT-DT = 0.0  HEATING-CAPACITY = -5560.
* 782 *      FURNACE-AUX = 0.
* 783 *      ZONE-NAMES = (MECH_ROOM)  ..
* 784 *
* 785 *  END  ..
* 786 *  COMPUTE SYSTEMS  ..
* 787 *
* 788 *  INPUT PLANT  ..

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PDL PROCESSOR INPUT DATA

3/19/1995 11:41:17 PDL RUN 1

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* 789 *
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$-----$
$ EZ - DOE PLANTS INPUT $
$-----$

$ GENERAL PROJECT DATA

TITLE LINE-1 * EMC ENGINEERS . INC. *
LINE-2 * BZDOE - ELITE SOFTWARE DEVELOPMENT INC*
LINE-3 * DENVER, CO 80227 *
LINE-4 * BUILDING 10522, ENL PERS BRKS W/CA&S *
LINE-5 * MODEL WITH SET BACK AND DDC * ..

ABORT ERRORS ..
DIAGNOSTIC WARNINGS ..
PLANT-REPORT SUMMARY=(PS-A,PS-B,PS-C,PS-D,PS-G,PS-H,PS-I,
BEPS)

$ SCHEDULES

HE_D =DAY-SCHEDULE (1,24) (1.) ..
FULL_OFFD =DAY-SCHEDULE (1,24) (0.) ..
HE_W =WEEK-SCHEDULE (ALL) HE_D ..
FULL_OFFW =WEEK-SCHEDULE (ALL) FULL_OFFD ..

$ HEAT EXCHANGER SCHED
HE_SCHED =SCHEDULE THRU MAY 1 HE_W
THRU OCT 1 FULL_OFFW
THRU DEC 31 HE_W ..

$ DHW SCHEDULE
DHW_SCHED =SCHEDULE THRU MAY 1 FULL_OFFW
THRU OCT 1 HE_W
THRU DEC 31 FULL_OFFW ..

$ EQUIPMENT DESCRIPTION

CONVERTERS =PLANT-EQUIPMENT TYPE = HTANK-STORAGE
SIZE = 1.1 ..
DHW =PLANT-EQUIPMENT TYPE = HTANK-STORAGE
SIZE = 0.2 ..

PLANT-PARAMETERS
BOILER-FUEL = COAL MAKEUP-WTR-T = 200.
STM-BOILER-HIR = 1.0 CCIRC-HEAD = 65.0
HCIRC-HEAD = 65.0 ..

ENERGY-RESOURCE RESOURCE = ELECTRICITY ..
ENERGY-RESOURCE RESOURCE = STEAM SOURCE-SITE-EFF = 1.000 ..

ENERGY-STORAGE HEAT-STORE-RATE = 1000.0 HEAT-SUPPLY-RATE = 1000.0
HTANK-BASE-T = 195.0 HTANK-T-RANGE = 5.0
HEAT-STORE-SCH = HE_SCHED HTANK-ENV-T = 65.0 ..

HEAT-RECOVERY
SUPPLY-1 = (HTANK-STORAGE)
DEMAND-1 = (SPACE-HEAT) ..

CONV_ASSIG =LOAD-ASSIGNMENT TYPE = HEATING
OPERATION-MODE = RUN-ALL
LOAD-RANGE = 1.056
PLANT-EQUIPMENT = CONVERTERS
NUMBER = 1 ..

DHW_ASSIGN =LOAD-ASSIGNMENT TYPE = HEATING
OPERATION-MODE = RUN-ALL
LOAD-RANGE = 0.211
PLANT-EQUIPMENT = DHW
NUMBER = 1 ..

END ..
COMPUTE PLANT ..
STOP ..

```

ENERGY TYPE IN SITE MBTU-	STEAM	ELECTRICITY
CATEGORY OF USE		
SPACE HEAT	2,400.45	0.00
SPACE COOL	0.00	0.00
HVAC AUX	0.00	127.97
DOM HOT WTR	376.90	0.00
AUX SOLAR	0.00	0.00
LIGHTS	0.00	314.63
VERT TRANS	0.00	0.00
MISC EQUIP	0.00	901.18
	<hr/>	<hr/>
TOTAL	2,777.36	1,343.78

TOTAL SITE ENERGY 4121.12 MBTU 357.0 KBTU/SQFT-YR GROSS-AREA 107.9 KBTU/SQFT-YR NET-AREA  
 TOTAL SOURCE ENERGY 6812.70 MBTU 590.2 KBTU/SQFT-YR GROSS-AREA 178.4 KBTU/SQFT-YR NET-AREA

PERCENT OF HOURS ANY SYSTEM ZONE OUTSIDE OF THROTTLING RANGE = 12.4  
 PERCENT OF HOURS ANY PLANT LOAD NOT SATISFIED = 0.0

NOTE ELECTRICITY AND/OR FUEL USED TO GENERATE ELECTRICITY IS APPORTIONED BASED  
 ON THE YEARLY DEMAND. ALL OTHER ENERGY TYPES ARE APPORTIONED HOURLY.

MO	UTILITY-	STEAM	ELECTRICITY
	TOTAL (MBTU)	564.192	121.067
JAN	PEAK (KBTU)	1311.095	347.331
	DY/HR	5/ 9	31/21
	TOTAL (MBTU)	427.089	110.042
FEB	PEAK (KBTU)	1231.065	347.331
	DY/HR	4/ 9	28/21
	TOTAL (MBTU)	432.021	108.377
MAR	PEAK (KBTU)	1254.178	317.160
	DY/HR	9/ 7	31/21
	TOTAL (MBTU)	232.897	103.990
APR	PEAK (KBTU)	1076.435	317.160
	DY/HR	1/ 6	29/21
	TOTAL (MBTU)	131.834	107.170
MAY	PEAK (KBTU)	989.901	317.160
	DY/HR	16/ 8	27/21
	TOTAL (MBTU)	28.938	110.580
JUN	PEAK (KBTU)	211.069	375.116
	DY/HR	30/21	30/21
	TOTAL (MBTU)	29.837	128.207
JUL	PEAK (KBTU)	211.069	375.116
	DY/HR	31/21	4/21
	TOTAL (MBTU)	27.241	120.068
AUG	PEAK (KBTU)	211.069	343.937
	DY/HR	31/21	19/21
	TOTAL (MBTU)	25.054	101.538
SEP	PEAK (KBTU)	211.069	312.758
	DY/HR	30/ 8	30/21
	TOTAL (MBTU)	161.173	106.747
OCT	PEAK (KBTU)	909.589	317.160
	DY/HR	28/ 8	31/21
	TOTAL (MBTU)	284.831	104.699
NOV	PEAK (KBTU)	1066.542	317.160
	DY/HR	28/ 8	30/21
	TOTAL (MBTU)	432.249	121.284
DEC	PEAK (KBTU)	1234.040	347.331
	DY/HR	28/ 7	30/21
	ONE YEAR	2777.355	1343.769
	USE/PEAK	1311.095	375.116

**COMPUTER SIMULATIONS**

BUILDING 10550



**COMPUTER SIMULATIONS**  
BUILDING 10550

BASE RUN

# LDL PROCESSOR INPUT DATA

3/18/1995 9:30:35 LDL RUN 1

```

* 3 *
* 4 *
* 5 *      $-----$
* 6 *      $EZ-DOE LOADS INPUT$
* 7 *      $-----$
* 8 *
* 9 *      $ GENERAL PROJECT DATA
* 10 *
* 11 * TITLE LINE-1 * EMC ENGINEERS INC. *
* 12 * LINE-2 *EZDOE - ELITE SOFTWARE DEVELOPMENT INC*
* 13 * LINE-3 * DENVER, CO 80227 *
* 14 *
* 15 * LINE-4 *BUILDING 10550, ENL PERS DINING *
* 16 * LINE-5 *BASE MODEL *..
* 17 *
* 18 * ABORT ERRORS ..
* 19 * DIAGNOSTIC WARNINGS ..
* 20 * LOADS-REPORT VERIFICATION=(LV-A,LV-B,LV-C)
* 21 * SUMMARY=(LS-A,LS-B,LS-C,LS-D,LS-E,LS-F,LS-K) ..
* 22 * BUILDING-LOCATION LATITUDE = 44.0
* 23 * ALTITUDE = 655.
* 24 * AZIMUTH = -40.
* 25 * TIME-ZONE = 5
* 26 * GROSS-AREA = 15560
* 27 * HOLIDAY = NO
* 28 * SHIELDING-COEF = 0.29
* 29 * X-REF = 0.0
* 30 * Y-REF = 0.0 ..
* 31 * RUN-PERIOD JAN 1 1994 THRU DEC 31 1994 ..
* 32 *
* 33 *
* 34 *      $ SCHEDULES
* 35 *
* 36 * LIGHTS =DAY-SCHEDULE (1,2) (1.)
* 37 *      (3,11) (0.5)
* 38 *      (12,13) (0.6)
* 39 *      (14,24) (1.) ..
* 40 *
* 41 * OCCUP =DAY-SCHEDULE (1,5) (0.)
* 42 *      (6,8) (0.1,0.4,0.7)
* 43 *      (9,10) (0.1)
* 44 *      (11,12) (0.4,0.8)
* 45 *      (13,15) (0.1)

```

\* 46 \* (16,17) (0.3,0.9)  
 \* 47 \* (18) (0.1)  
 \* 48 \* (19,24) (0.) ..  
 \* 49 \*  
 \* 50 \* APPLIANCE =DAY-SCHEDULE (1) (0.)  
 \* 51 \* (2,3) (0.7)  
 \* 52 \* (4,12) (0.02)  
 \* 53 \* (13,15) (0.6)  
 \* 54 \* (16,18) (0.02)  
 \* 55 \* (19,20) (0.7)  
 \* 56 \* (21,24) (0.8) ..  
 \* 57 \*  
 \* 58 \* FULL\_ON\_D =DAY-SCHEDULE (1,24) (1.) ..  
 \* 59 \*  
 \* 60 \* FULL\_OFFD =DAY-SCHEDULE (1,24) (0.) ..  
 \* 61 \*  
 \* 62 \* appliance =DAY-SCHEDULE (1,3) (0.)  
 \* 63 \* (4) (0.1)  
 \* 64 \* (5,6) (0.4)  
 \* 65 \* (7,11) (0.6,0.7,0.3,0.4,0.6)  
 \* 66 \* (12,16) (0.7,0.6,0.4,0.6,0.8)  
 \* 67 \* (17,18) (0.5,0.1)  
 \* 68 \* (19,24) (0.) ..  
 \* 69 \*  
 \* 70 \* lights =DAY-SCHEDULE (1,3) (0.)  
 \* 71 \* (4,6) (0.2,0.4,0.5)  
 \* 72 \* (7,16) (0.8)  
 \* 73 \* (17,18) (0.7,0.4)  
 \* 74 \* (19,24) (0.) ..  
 \* 75 \*  
 \* 76 \*  
 \* 77 \* PEOPLE =WEEK-SCHEDULE (ALL) OCCUP ..  
 \* 78 \*  
 \* 79 \* LIGHTS\_WK =WEEK-SCHEDULE (ALL) lights ..  
 \* 80 \*  
 \* 81 \* APPLI\_WK =WEEK-SCHEDULE (ALL) appliance ..  
 \* 82 \*  
 \* 83 \* FULL\_ON\_W =WEEK-SCHEDULE (ALL) FULL\_ON\_D ..  
 \* 84 \*  
 \* 85 \* FULL\_OFFW =WEEK-SCHEDULE (ALL) FULL\_OFFD ..  
 \* 86 \*  
 \* 87 \*  
 \* 88 \* \$ FULL\_ON SCHEDULE  
 \* 89 \* FULL\_ON =SCHEDULE THRU DEC 31 FULL\_ON\_W ..  
 \* 90 \*  
 \* 91 \* \$ LOADS OCCUPANCY SCHED  
 \* 92 \* OCCUPANCY =SCHEDULE THRU DEC 31 PEOPLE ..  
 \* 93 \*  
 \* 94 \* \$ LIGHTING SCHEDULE  
 \* 95 \* LIGHTS\_ON =SCHEDULE THRU DEC 31 LIGHTS\_WK ..

```

* 96 *
* 97 * $ APPLIANCE SCHEDULE
* 98 * APPLI_ON =SCHEDULE THRU DEC 31 APPLI_WK ..
* 99 *
* 100 * $ COND VENTIL SCHED
* 101 * CND_SCHED =SCHEDULE THRU MAR 1 FULL_OFFW
* 102 *          THRU NOV 30 FULL_ON_W
* 103 *          THRU DEC 31 FULL_OFFW ..
* 104 *
* 105 *
* 106 *
* 107 *          $ CONSTRUCTION TYPES
* 108 *
* 109 *
* 110 *
* 111 *
* 112 * $ DOOR CONSTRUCTION
* 113 * DOORCON =CONSTRUCTION U-VALUE = 0.400 ..
* 114 * FLOOR =CONSTRUCTION U-VALUE = 0.100
* 115 *          ABSORPTANCE = 1.000
* 116 *          ROUGHNESS = 1 ..
* 117 * ROOFCON =CONSTRUCTION U-VALUE = 0.050 ..
* 118 * EXWALL =CONSTRUCTION U-VALUE = 0.200
* 119 *          ABSORPTANCE = 0.750 ..
* 120 * INWALL =CONSTRUCTION U-VALUE = 0.500 ..
* 121 *
* 122 * $ APPRX OF AIR FLOW BETWEEN SPACES
* 123 * AIR_WALL =CONSTRUCTION U-VALUE = 20.000 ..
* 124 *
* 125 * GTYPE_1 =GLASS-TYPE  SHADING-COEF = 0.400
* 126 *          PANES = 1
* 127 *          GLASS-CONDUCTANCE = 1.130 ..
* 128 * GTYPE_2 =GLASS-TYPE  SHADING-COEF = 0.300
* 129 *          PANES = 1
* 130 *          GLASS-CONDUCTANCE = 0.790 ..
* 131 * GTYPE_3 =GLASS-TYPE  SHADING-COEF = 0.400
* 132 *          PANES = 1
* 133 *          GLASS-CONDUCTANCE = 0.360 ..
* 134 *
* 135 *
* 136 *
* 137 *
* 138 *          $ SPACE DESCRIPTION
* 139 *
* 140 * FOODPREP =SPACE  AREA = 3015.0 VOLUME = 27135.0
* 141 *          AZIMUTH = -40 ZONE-TYPE = CONDITIONED
* 142 *          PEOPLE-SCHEDULE = OCCUPANCY NUMBER-OF-PEOPLE = 15.0
* 143 *          PEOPLE-HEAT-GAIN = 640.0
* 144 *          LIGHTING-TYPE = REC-FLUOR-RV LIGHTING-KW = 3.0
* 145 *          LIGHT-TO-SPACE = 1.0 LIGHTING-SCHEDULE = LIGHTS_ON

```

\* 146 \*       EQUIP-SCHEDULE = APPLI\_ON EQUIPMENT-KW = 57.0  
 \* 147 \*       EQUIP-SENSIBLE = 0.0 SOURCE-SCHEDULE = FULL\_ON  
 \* 148 \*       SOURCE-TYPE = GAS SOURCE-BTU/HR = 119053.0  
 \* 149 \*       SOURCE-SENSIBLE = 0.0 INF-METHOD = AIR-CHANGE  
 \* 150 \*       AIR-CHANGES/HR = 0.33 INF-SCHEDULE = FULL\_ON ..  
 \* 151 \*  
 \* 152 \*       E-W   HEIGHT = 9.0 WIDTH = 44.0 CONS = EXWALL  
 \* 153 \*       AZIMUTH = -40 ..  
 \* 154 \*  
 \* 155 \*       I-W   HEIGHT = 9.0 WIDTH = 87.0 CONS = INWALL  
 \* 156 \*       AZIMUTH = -130 NEXT-TO = SHORTORDER ..  
 \* 157 \*  
 \* 158 \*       I-W   HEIGHT = 9.0 WIDTH = 44.0 CONS = INWALL  
 \* 159 \*       AZIMUTH = 140 NEXT-TO = SHORTORDER ..  
 \* 160 \*  
 \* 161 \*       E-W   HEIGHT = 9.0 WIDTH = 87.0 CONS = EXWALL  
 \* 162 \*       AZIMUTH = 50 ..  
 \* 163 \*  
 \* 164 \*       DOOR   HEIGHT = 8.0 WIDTH = 6.0 CONS = DOORCON  
 \* 165 \*       MULTIPLIER = 2.0 ..  
 \* 166 \*  
 \* 167 \*       ROOF   HEIGHT = 87.0 WIDTH = 44.0 CONS = ROOFCON  
 \* 168 \*       AZIMUTH = -40 TILT = 0 ..  
 \* 169 \*  
 \* 170 \*       U-W   HEIGHT = 87.0 WIDTH = 44.0 CONS = FLOOR  
 \* 171 \*       AZIMUTH = -40 ..  
 \* 172 \*  
 \* 173 \*  
 \* 174 \*       SHORTORDER = SPACE   AREA = 2573.0 VOLUME = 23157.0  
 \* 175 \*       AZIMUTH = -40 ZONE-TYPE = CONDITIONED  
 \* 176 \*       PEOPLE-SCHEDULE = OCCUPANCY NUMBER-OF-PEOPLE = 8.0  
 \* 177 \*       PEOPLE-HEAT-GAIN = 640.0 LIGHTING-TYPE = INCAND  
 \* 178 \*       LIGHTING-KW = 1.5 LIGHT-TO-SPACE = 1.0  
 \* 179 \*       LIGHTING-SCHEDULE = LIGHTS\_ON  
 \* 180 \*       EQUIP-SCHEDULE = APPLI\_ON EQUIPMENT-KW = 30.0  
 \* 181 \*       EQUIP-SENSIBLE = 0.0 SOURCE-SCHEDULE = FULL\_ON  
 \* 182 \*       SOURCE-TYPE = HOT-WATER SOURCE-BTU/HR = 225799.0  
 \* 183 \*       SOURCE-SENSIBLE = 0.0 INF-METHOD = AIR-CHANGE  
 \* 184 \*       AIR-CHANGES/HR = 0.5 INF-SCHEDULE = FULL\_ON ..  
 \* 185 \*  
 \* 186 \*       E-W   HEIGHT = 9.0 WIDTH = 27.0 CONS = EXWALL  
 \* 187 \*       AZIMUTH = -40 ..  
 \* 188 \*  
 \* 189 \*       DOOR   HEIGHT = 7.0 WIDTH = 3.0 CONS = ROOFCON  
 \* 190 \*       MULTIPLIER = 2.0 ..  
 \* 191 \*  
 \* 192 \*       I-W   HEIGHT = 9.0 WIDTH = 40.0 CONS = INWALL  
 \* 193 \*       AZIMUTH = -130 NEXT-TO = WAREWASH ..  
 \* 194 \*  
 \* 195 \*       I-W   HEIGHT = 9.0 WIDTH = 27.0 CONS = INWALL

\* 196 \*           AZIMUTH = 140 NEXT-TO = DINING ..  
 \* 197 \*  
 \* 198 \*       I-W   HEIGHT = 9.0 WIDTH = 40.0 CONS = INWALL  
 \* 199 \*           AZIMUTH = 50 NEXT-TO = FOODPREP ..  
 \* 200 \*  
 \* 201 \*       ROOF   HEIGHT = 40.0 WIDTH = 27.0 CONS = ROOFCON  
 \* 202 \*           AZIMUTH = -40 TILT = 0 ..  
 \* 203 \*  
 \* 204 \*       U-W   HEIGHT = 40.0 WIDTH = 27.0 CONS = FLOOR  
 \* 205 \*           AZIMUTH = -40 ..  
 \* 206 \*  
 \* 207 \*  
 \* 208 \* DINING   =SPACE   AREA = 4982.0 VOLUME = 44838.0  
 \* 209 \*           AZIMUTH = -40 ZONE-TYPE = CONDITIONED  
 \* 210 \*           PEOPLE-SCHEDULE = OCCUPANCY NUMBER-OF-PEOPLE = 100.0  
 \* 211 \*           PEOPLE-HEAT-GAIN = 640.0 LIGHTING-TYPE = INCAND  
 \* 212 \*           LIGHTING-KW = 7.0 LIGHT-TO-SPACE = 1.0  
 \* 213 \*           LIGHTING-SCHEDULE = LIGHTS\_ON  
 \* 214 \*           EQUIP-SCHEDULE = APPLI\_ON EQUIPMENT-KW = 1.0  
 \* 215 \*           EQUIP-SENSIBLE = 0.25 SOURCE-SENSIBLE = 0.0  
 \* 216 \*           INF-METHOD = AIR-CHANGE AIR-CHANGES/HR = 0.66  
 \* 217 \*           INF-SCHEDULE = FULL\_ON ..  
 \* 218 \*  
 \* 219 \*       I-W   HEIGHT = 9.0 WIDTH = 85.0 CONS = INWALL  
 \* 220 \*           AZIMUTH = -40 NEXT-TO = WAREWASH ..  
 \* 221 \*  
 \* 222 \*       E-W   HEIGHT = 9.0 WIDTH = 47.0 CONS = EXWALL  
 \* 223 \*           AZIMUTH = -130 ..  
 \* 224 \*  
 \* 225 \*       E-W   HEIGHT = 9.0 WIDTH = 85.0 CONS = EXWALL  
 \* 226 \*           AZIMUTH = 140 ..  
 \* 227 \*  
 \* 228 \*       WINDOW HEIGHT = 7.0 WIDTH = 4.0 G-T = GTYPE\_1  
 \* 229 \*           MULTIPLIER = 6.0 ..  
 \* 230 \*  
 \* 231 \*       DOOR   HEIGHT = 7.0 WIDTH = 3.0 CONS = ROOFCON ..  
 \* 232 \*  
 \* 233 \*       I-W   HEIGHT = 9.0 WIDTH = 47.0 CONS = INWALL  
 \* 234 \*           AZIMUTH = 50 NEXT-TO = FOODPREP ..  
 \* 235 \*  
 \* 236 \*       ROOF   HEIGHT = 47.0 WIDTH = 85.0 CONS = ROOFCON  
 \* 237 \*           AZIMUTH = -40 TILT = 0 ..  
 \* 238 \*  
 \* 239 \*       U-W   HEIGHT = 47.0 WIDTH = 85.0 CONS = FLOOR  
 \* 240 \*           AZIMUTH = -40 ..  
 \* 241 \*  
 \* 242 \*  
 \* 243 \* WAREWASH   =SPACE   AREA = 3187.0 VOLUME = 28683.0  
 \* 244 \*           AZIMUTH = -40 ZONE-TYPE = CONDITIONED  
 \* 245 \*           PEOPLE-SCHEDULE = OCCUPANCY NUMBER-OF-PEOPLE = 5.0

\* 246 \* PEOPLE-HEAT-GAIN = 640.0 LIGHTING-TYPE = INCAND  
 \* 247 \* LIGHTING-KW = 1.5 LIGHT-TO-SPACE = 1.0  
 \* 248 \* LIGHTING-SCHEDULE = LIGHTS\_ON  
 \* 249 \* EQUIP-SCHEDULE = APPLI\_ON EQUIPMENT-KW = 1.0  
 \* 250 \* EQUIP-SENSIBLE = 0.25 SOURCE-SENSIBLE = 0.0  
 \* 251 \* INF-METHOD = AIR-CHANGE AIR-CHANGES/HR = 0.66  
 \* 252 \* INF-SCHEDULE = FULL\_ON ..  
 \* 253 \*  
 \* 254 \* E-W HEIGHT = 9.0 WIDTH = 55.0 CONS = EXWALL  
 \* 255 \* AZIMUTH = -40 ..  
 \* 256 \*  
 \* 257 \* DOOR HEIGHT = 7.0 WIDTH = 3.0 CONS = DOORCON  
 \* 258 \* MULTIPLIER = 3.0 ..  
 \* 259 \*  
 \* 260 \* E-W HEIGHT = 9.0 WIDTH = 40.0 CONS = EXWALL  
 \* 261 \* AZIMUTH = -130 ..  
 \* 262 \*  
 \* 263 \* I-W HEIGHT = 9.0 WIDTH = 55.0 CONS = INWALL  
 \* 264 \* AZIMUTH = 140 NEXT-TO = DINING ..  
 \* 265 \*  
 \* 266 \* I-W HEIGHT = 9.0 WIDTH = 40.0 CONS = INWALL  
 \* 267 \* AZIMUTH = 50 NEXT-TO = SHORTORDER ..  
 \* 268 \*  
 \* 269 \* ROOF HEIGHT = 40.0 WIDTH = 55.0 CONS = ROOFCON  
 \* 270 \* AZIMUTH = -40 TILT = 0 ..  
 \* 271 \*  
 \* 272 \* U-W HEIGHT = 40.0 WIDTH = 55.0 CONS = FLOOR  
 \* 273 \* AZIMUTH = -40 ..  
 \* 274 \*  
 \* 275 \*  
 \* 276 \* FOODPREP\_B=SPACE AREA = 800.0 VOLUME = 7200.0  
 \* 277 \* AZIMUTH = -40 ZONE-TYPE = CONDITIONED  
 \* 278 \* PEOPLE-SCHEDULE = FULL\_ON NUMBER-OF-PEOPLE = 10.0  
 \* 279 \* LIGHTING-SCHEDULE = FULL\_ON EQUIP-SCHEDULE = FULL\_ON  
 \* 280 \* EQUIP-SENSIBLE = 0.25 FLOOR-WEIGHT = 0.1  
 \* 281 \* INF-METHOD = AIR-CHANGE AIR-CHANGES/HR = 0.66  
 \* 282 \* INF-SCHEDULE = FULL\_ON ..  
 \* 283 \*  
 \* 284 \* I-W HEIGHT = 9.0 WIDTH = 30.0 CONS = AIR\_WALL  
 \* 285 \* AZIMUTH = -40 NEXT-TO = FOODPREP ..  
 \* 286 \*  
 \* 287 \*  
 \* 288 \* FDPREPHOOD=SPACE AREA = 200.0 VOLUME = 1600.0  
 \* 289 \* AZIMUTH = -40 TEMPERATURE = (55.)  
 \* 290 \* ZONE-TYPE = CONDITIONED PEOPLE-SCHEDULE = FULL\_ON  
 \* 291 \* AREA/PERSON = 10.0 LIGHTING-SCHEDULE = FULL\_ON  
 \* 292 \* EQUIP-SCHEDULE = FULL\_ON EQUIP-SENSIBLE = 0.25  
 \* 293 \* FLOOR-WEIGHT = 0.1 INF-METHOD = AIR-CHANGE  
 \* 294 \* AIR-CHANGES/HR = 0.5 INF-SCHEDULE = FULL\_ON ..  
 \* 295 \*

```

* 296 *      I-W  HEIGHT = 1.0 WIDTH = 1.0 CONS = INWALL
* 297 *          AZIMUTH = -40 NEXT-TO = FOODPREP_B ..
* 298 *
* 299 *
* 300 *END ..
* 301 *COMPUTE LOADS ..
* 302 *
* 303 *INPUT SYSTEMS ..

```

# SDL PROCESSOR INPUT DATA

3/18/1995 9:30:35 SDL RUN 1

```

* 304 *
* 305 *
* 306 *      $-----$
* 307 *      $EZ-DOE SYSTEMS INPUT$
* 308 *      $-----$
* 309 *
* 310 *          $ GENERAL PROJECT DATA
* 311 *
* 312 *TITLE LINE-1 * EMC ENGINEERS INC. *
* 313 *      LINE-2 *EZDOE - ELITE SOFTWARE DEVELOPMENT INC*
* 314 *      LINE-3 * DENVER, CO 80227 *
* 315 *
* 316 *      LINE-4 *BUILDING 10550, ENL PERS DINING *
* 317 *      LINE-5 *BASE MODEL *..
* 318 *ABORT      ERRORS ..
* 319 *DIAGNOSTIC  WARNINGS ..
* 320 *SYSTEMS-REPORT VERIFICATION=(SV-A,SV-B)
* 321 *          SUMMARY=(SS-A,SS-B,SS-C,SS-D,SS-E,SS-F,SS-G,
* 322 *          SS-H,SS-I,SS-J,SS-K,SS-L,SS-M,SS-N,
* 323 *          SS-O) ..
* 324 *
* 325 *          $ SCHEDULES
* 326 *
* 327 * D_FULL  =DAY-SCHEDULE (1,24) (1.) ..
* 328 * AHU1D   =DAY-SCHEDULE (1,4) (0.)
* 329 *          (5,18) (1.)
* 330 *          (19,24) (0.) ..
* 331 * AHU2D   =DAY-SCHEDULE (1,2) (1.)
* 332 *          (3,17) (0.)
* 333 *          (18,24) (1.) ..
* 334 * D_OFF   =DAY-SCHEDULE (1,24) (0.) ..
* 335 * HOODS_ON_D =DAY-SCHEDULE (1,4) (0.)
* 336 *          (5,18) (1.)
* 337 *          (19,24) (0.) ..

```



\* 338 \* AHU3W\_CFMD =DAY-SCHEDULE (1,4) (0.5)  
 \* 339 \*                   (5,18) (1.)  
 \* 340 \*                   (19,24) (0.5) ..  
 \* 341 \* HEAT\_68\_D =DAY-SCHEDULE (1,24) (74.) ..  
 \* 342 \* HEAT\_40\_D =DAY-SCHEDULE (1,24) (40.) ..  
 \* 343 \* HEAT\_55\_D =DAY-SCHEDULE (1,24) (55.) ..  
 \* 344 \* AHU4W\_CFMD =DAY-SCHEDULE (1,24) (0.77) ..  
 \* 345 \* AHU5W\_CFMD =DAY-SCHEDULE (1,24) (0.5) ..  
 \* 346 \* AHU2W\_OA\_D =DAY-SCHEDULE (1,24) (0.13) ..  
 \* 347 \* 85\_D =DAY-SCHEDULE (1,24) (85.) ..  
 \* 348 \*  
 \* 349 \* W\_FULL =WEEK-SCHEDULE (ALL) D\_FULL ..  
 \* 350 \*  
 \* 351 \* AHU1\_WK =WEEK-SCHEDULE (ALL) AHU1D ..  
 \* 352 \*  
 \* 353 \* AHU2\_WK =WEEK-SCHEDULE (ALL) AHU2D ..  
 \* 354 \*  
 \* 355 \* W\_OFF =WEEK-SCHEDULE (ALL) D\_OFF ..  
 \* 356 \*  
 \* 357 \* AHU3W\_CFMW =WEEK-SCHEDULE (ALL) AHU3W\_CFMD ..  
 \* 358 \*  
 \* 359 \* HEAT\_74\_W =WEEK-SCHEDULE (ALL) HEAT\_68\_D ..  
 \* 360 \*  
 \* 361 \* HEAT\_40\_W =WEEK-SCHEDULE (ALL) HEAT\_40\_D ..  
 \* 362 \*  
 \* 363 \* HEAT\_55\_W =WEEK-SCHEDULE (ALL) HEAT\_55\_D ..  
 \* 364 \*  
 \* 365 \* AHU4W\_CFMW =WEEK-SCHEDULE (ALL) AHU4W\_CFMD ..  
 \* 366 \*  
 \* 367 \* AHU5W\_CFMW =WEEK-SCHEDULE (ALL) AHU5W\_CFMD ..  
 \* 368 \*  
 \* 369 \* AHU2W\_OA\_W =WEEK-SCHEDULE (ALL) AHU2W\_OA\_D ..  
 \* 370 \*  
 \* 371 \* 85\_W =WEEK-SCHEDULE (ALL) 85\_D ..  
 \* 372 \*  
 \* 373 \*  
 \* 374 \* FULL\_ON =SCHEDULE THRU DEC 31 W\_FULL ..  
 \* 375 \*  
 \* 376 \* \$ AHU1 HEAT SCHEDULE  
 \* 377 \* AHU1\_ONH =SCHEDULE THRU DEC 31 AHU1\_WK ..  
 \* 378 \*  
 \* 379 \* \$ AHU2 HEAT SCHED  
 \* 380 \* AHU2\_ONH =SCHEDULE THRU APR 15 AHU2\_WK  
 \* 381 \*                   THRU OCT 1 W\_OFF  
 \* 382 \*                   THRU DEC 31 AHU2\_WK ..  
 \* 383 \*  
 \* 384 \* \$ HEAT SCHEDULE  
 \* 385 \* HEAT\_SCED =SCHEDULE THRU APR 15 W\_FULL  
 \* 386 \*                   THRU OCT 1 W\_OFF  
 \* 387 \*                   THRU DEC 31 W\_FULL ..

\* 388 \*  
 \* 389 \* \$ SUPPLY CFM RATIO  
 \* 390 \* AHU3W\_CFM =SCHEDULE THRU MAY 15 AHU3W\_CFMW  
 \* 391 \*           THRU OCT 1 W\_FULL  
 \* 392 \*           THRU DEC 31 AHU3W\_CFMW ..  
 \* 393 \*  
 \* 394 \* \$ AHU2\_COOL SCHED  
 \* 395 \* AHU2\_C =SCHEDULE THRU DEC 31 AHU2\_WK ..  
 \* 396 \*  
 \* 397 \* HEAT\_74 =SCHEDULE THRU DEC 31 HEAT\_74\_W ..  
 \* 398 \*  
 \* 399 \* HEAT\_40 =SCHEDULE THRU DEC 31 HEAT\_40\_W ..  
 \* 400 \*  
 \* 401 \* HEAT\_55 =SCHEDULE THRU DEC 31 HEAT\_55\_W ..  
 \* 402 \*  
 \* 403 \* \$ CFM RATIO  
 \* 404 \* AHU4\_CFM =SCHEDULE THRU MAY 15 AHU4W\_CFMW  
 \* 405 \*           THRU OCT 1 W\_FULL  
 \* 406 \*           THRU DEC 31 AHU4W\_CFMW ..  
 \* 407 \*  
 \* 408 \* \$ AHU2 & AHU5 CFM RATIOS  
 \* 409 \* AHU2&5\_CFM =SCHEDULE THRU MAY 15 AHU5W\_CFMW  
 \* 410 \*           THRU OCT 1 W\_FULL  
 \* 411 \*           THRU DEC 31 AHU5W\_CFMW ..  
 \* 412 \*  
 \* 413 \* \$ AHU2\_OA SCHEDULE  
 \* 414 \* AHU2\_OA =SCHEDULE THRU MAY 15 AHU2W\_OA\_W  
 \* 415 \*           THRU OCT 1 W\_FULL  
 \* 416 \*           THRU DEC 31 AHU2W\_OA\_W ..  
 \* 417 \*  
 \* 418 \* \$ VENTILATION SCHED  
 \* 419 \* COOL\_ON =SCHEDULE THRU MAY 15 W\_OFF  
 \* 420 \*           THRU OCT 1 W\_FULL  
 \* 421 \*           THRU DEC 31 W\_OFF ..  
 \* 422 \*  
 \* 423 \* COOL\_TEMP =SCHEDULE THRU DEC 31 85\_W ..  
 \* 424 \*  
 \* 425 \* FULL\_OFF =SCHEDULE THRU DEC 31 W\_OFF ..  
 \* 426 \*  
 \* 427 \*  
 \* 428 \*  
 \* 429 \*           \$ ZONE DESCRIPTION  
 \* 430 \*  
 \* 431 \* FOODPREP =ZONE DESIGN-HEAT-T = 68.0 DESIGN-COOL-T = 80.0  
 \* 432 \*           HEAT-TEMP-SCH = HEAT\_74 ZONE-TYPE = CONDITIONED  
 \* 433 \*           THERMOSTAT-TYPE = PROPORTIONAL  
 \* 434 \*           BASEBOARD-CTRL = THERMOSTATIC  
 \* 435 \*           BASEBOARD-RATING = -39050. ASSIGNED-CFM = 5265.  
 \* 436 \*           OUTSIDE-AIR-CFM = 1333. SIZING-OPTION = FROM-LOADS  
 \* 437 \*           MIN-CFM-RATIO = 1.0 EXHAUST-CFM = 1333.0

\* 438 \*           EXHAUST-STATIC = 0.9 ..  
 \* 439 \*  
 \* 440 \* SHORTORDER =ZONE   DESIGN-HEAT-T = 68.0 DESIGN-COOL-T = 80.0  
 \* 441 \*           HEAT-TEMP-SCH = HEAT\_74 ZONE-TYPE = CONDITIONED  
 \* 442 \*           THERMOSTAT-TYPE = PROPORTIONAL  
 \* 443 \*           BASEBOARD-CTRL = THERMOSTATIC  
 \* 444 \*           BASEBOARD-RATING = -5500. ASSIGNED-CFM = 4670.  
 \* 445 \*           OUTSIDE-AIR-CFM = 4670. SIZING-OPTION = FROM-LOADS  
 \* 446 \*           MIN-CFM-RATIO = 1.0 MIN-CFM-SCH = AHU3W\_CFM  
 \* 447 \*           EXHAUST-CFM = 4670.0 EXHAUST-STATIC = 0.9 ..  
 \* 448 \*  
 \* 449 \* DINING   =ZONE   DESIGN-HEAT-T = 68.0 DESIGN-COOL-T = 80.0  
 \* 450 \*           HEAT-TEMP-SCH = HEAT\_74 ZONE-TYPE = CONDITIONED  
 \* 451 \*           THERMOSTAT-TYPE = PROPORTIONAL ASSIGNED-CFM = 7430.  
 \* 452 \*           OUTSIDE-AIR-CFM = 360. SIZING-OPTION = FROM-LOADS  
 \* 453 \*           MIN-CFM-RATIO = 1.0 MIN-CFM-SCH = AHU3W\_CFM  
 \* 454 \*           EXHAUST-CFM = 360.0 EXHAUST-STATIC = 0.9 ..  
 \* 455 \*  
 \* 456 \* WAREWASH   =ZONE   DESIGN-HEAT-T = 68.0 DESIGN-COOL-T = 80.0  
 \* 457 \*           HEAT-TEMP-SCH = HEAT\_74 ZONE-TYPE = CONDITIONED  
 \* 458 \*           THERMOSTAT-TYPE = PROPORTIONAL  
 \* 459 \*           BASEBOARD-CTRL = THERMOSTATIC  
 \* 460 \*           BASEBOARD-RATING = -8100. ASSIGNED-CFM = 3145.  
 \* 461 \*           OUTSIDE-AIR-CFM = 3145. SIZING-OPTION = FROM-LOADS  
 \* 462 \*           MIN-CFM-RATIO = 1.0 MIN-CFM-SCH = AHU2&5\_CFM  
 \* 463 \*           EXHAUST-CFM = 3145.0 EXHAUST-STATIC = 0.9 ..  
 \* 464 \*  
 \* 465 \* FOODPREP\_B =ZONE   DESIGN-HEAT-T = 68.0 DESIGN-COOL-T = 85.0  
 \* 466 \*           HEAT-TEMP-SCH = HEAT\_74 ZONE-TYPE = CONDITIONED  
 \* 467 \*           THERMOSTAT-TYPE = PROPORTIONAL  
 \* 468 \*           BASEBOARD-CTRL = THERMOSTATIC ASSIGNED-CFM = 1600.  
 \* 469 \*           OUTSIDE-AIR-CFM = 1600. SIZING-OPTION = FROM-LOADS  
 \* 470 \*           MIN-CFM-RATIO = 1.0 EXHAUST-CFM = 1600.0  
 \* 471 \*           EXHAUST-STATIC = 0.9 HEATING-CAPACITY = -48384.0 ..  
 \* 472 \*  
 \* 473 \* FDPREPHOOD =ZONE   DESIGN-HEAT-T = 40.0 DESIGN-COOL-T = 85.0  
 \* 474 \*           HEAT-TEMP-SCH = HEAT\_40 ZONE-TYPE = CONDITIONED  
 \* 475 \*           THERMOSTAT-TYPE = PROPORTIONAL ASSIGNED-CFM = 6400.  
 \* 476 \*           OUTSIDE-AIR-CFM = 6400. SIZING-OPTION = FROM-LOADS  
 \* 477 \*           MIN-CFM-RATIO = 1.0 EXHAUST-CFM = 6400.0  
 \* 478 \*           EXHAUST-STATIC = 2.0 ..  
 \* 479 \*  
 \* 480 \*  
 \* 481 \*           \$ SYSTEM DESCRIPTION  
 \* 482 \*  
 \* 483 \* AHU\_3   =SYSTEM   SYSTEM-TYPE = SZRH  
 \* 484 \*           MAX-SUPPLY-T = 120.0 MIN-SUPPLY-T = 57.0  
 \* 485 \*           COOLING-SCHEDULE = FULL\_OFF HEAT-SET-T = 120.0  
 \* 486 \*           PREHEAT-T = 41.2 MAX-HUMIDITY = 55.0  
 \* 487 \*           MIN-HUMIDITY = 35.0 ECONO-LIMIT-T = 65.0

\* 488 \* ECONO-LOW-LIMIT = 55.0 SUPPLY-CFM = 4670.  
 \* 489 \* RATED-CFM = 4670. MIN-OUTSIDE-AIR = 1.0  
 \* 490 \* SUPPLY-DELTA-T = 2.4 SUPPLY-KW = 0.0002  
 \* 491 \* MOTOR-PLACEMENT = OUTSIDE-AIRFLOW  
 \* 492 \* NIGHT-CYCLE-CTRL = STAY-OFF RETURN-STATIC = 0.53  
 \* 493 \* RETURN-EFF = 0.97 NIGHT-VENT-DT = 0.0  
 \* 494 \* MIN-CFM-RATIO = 1.0 HEATING-CAPACITY = -396650.  
 \* 495 \* FURNACE-AUX = 0. FURNACE-HIR = 1.0  
 \* 496 \* PREHEAT-SOURCE = HOT-WATER RETURN-AIR-PATH = DUCT  
 \* 497 \* ZONE-NAMES = (SHORTORDER) ..  
 \* 498 \*  
 \* 499 \* AHU\_4 =SYSTEM SYSTEM-TYPE = SZRH  
 \* 500 \* MAX-SUPPLY-T = 120.0 MIN-SUPPLY-T = 57.0  
 \* 501 \* COOLING-SCHEDULE = FULL\_OFF HEAT-SET-T = 100.0  
 \* 502 \* PREHEAT-T = 41.2 MAX-HUMIDITY = 65.0  
 \* 503 \* MIN-HUMIDITY = 35.0 ECONO-LIMIT-T = 65.0  
 \* 504 \* ECONO-LOW-LIMIT = 55.0 SUPPLY-CFM = 7430.  
 \* 505 \* RETURN-CFM = 7070. RATED-CFM = 7430.  
 \* 506 \* MIN-OUTSIDE-AIR = 0.05 SUPPLY-DELTA-T = 2.4  
 \* 507 \* SUPPLY-KW = 0.00025  
 \* 508 \* MOTOR-PLACEMENT = OUTSIDE-AIRFLOW  
 \* 509 \* NIGHT-CYCLE-CTRL = STAY-OFF RETURN-STATIC = 0.95  
 \* 510 \* RETURN-EFF = 0.97 NIGHT-VENT-DT = 0.0  
 \* 511 \* MIN-CFM-RATIO = 1.0 HEATING-CAPACITY = -256775.  
 \* 512 \* FURNACE-AUX = 0. FURNACE-HIR = 1.0  
 \* 513 \* PREHEAT-SOURCE = HOT-WATER RETURN-AIR-PATH = DUCT  
 \* 514 \* ZONE-NAMES = (DINING) ..  
 \* 515 \*  
 \* 516 \* AHU\_1 =SYSTEM SYSTEM-TYPE = SZRH  
 \* 517 \* MAX-SUPPLY-T = 120.0 MIN-SUPPLY-T = 45.0  
 \* 518 \* COOLING-SCHEDULE = FULL\_OFF HEAT-SET-T = 120.0  
 \* 519 \* PREHEAT-T = 40.0 MAX-HUMIDITY = 55.0  
 \* 520 \* MIN-HUMIDITY = 35.0 ECONO-LIMIT-T = 65.0  
 \* 521 \* ECONO-LOW-LIMIT = 55.0 SUPPLY-CFM = 1600.  
 \* 522 \* RATED-CFM = 1600. MIN-OUTSIDE-AIR = 1.0  
 \* 523 \* SUPPLY-DELTA-T = 2.4 SUPPLY-KW = 0.00065  
 \* 524 \* MOTOR-PLACEMENT = OUTSIDE-AIRFLOW  
 \* 525 \* NIGHT-CYCLE-CTRL = CYCLE-ON-ANY NIGHT-VENT-DT = 0.0  
 \* 526 \* MIN-CFM-RATIO = 1.0 REHEAT-DELTA-T = 32.  
 \* 527 \* COOL-FT-MIN = 0. HEATING-CAPACITY = -81216.  
 \* 528 \* FURNACE-AUX = 0. FURNACE-HIR = 1.0  
 \* 529 \* PREHEAT-SOURCE = HOT-WATER RETURN-AIR-PATH = DUCT  
 \* 530 \* ZONE-NAMES = (FOODPREP\_B) ..  
 \* 531 \*  
 \* 532 \* AHU\_5 =SYSTEM SYSTEM-TYPE = SZRH  
 \* 533 \* MAX-SUPPLY-T = 120.0 MIN-SUPPLY-T = 57.0  
 \* 534 \* COOLING-SCHEDULE = FULL\_OFF HEAT-SET-T = 100.0  
 \* 535 \* PREHEAT-T = 41.2 MAX-HUMIDITY = 65.0  
 \* 536 \* MIN-HUMIDITY = 35.0 ECONO-LIMIT-T = 65.0  
 \* 537 \* ECONO-LOW-LIMIT = 55.0 SUPPLY-CFM = 3145.

\* 538 \*           RATED-CFM = 3145. MIN-OUTSIDE-AIR = 1.0  
 \* 539 \*           SUPPLY-DELTA-T = 2.4 SUPPLY-KW = 0.00053  
 \* 540 \*           MOTOR-PLACEMENT = OUTSIDE-AIRFLOW  
 \* 541 \*           NIGHT-CYCLE-CTRL = STAY-OFF RETURN-STATIC = 1.38  
 \* 542 \*           RETURN-EFF = 0.97 NIGHT-VENT-DT = 0.0  
 \* 543 \*           MIN-CFM-RATIO = 1.0 HEATING-CAPACITY = -263764.  
 \* 544 \*           FURNACE-AUX = 0. FURNACE-HIR = 1.0  
 \* 545 \*           PREHEAT-SOURCE = HOT-WATER RETURN-AIR-PATH = DUCT  
 \* 546 \*           ZONE-NAMES = (WAREWASH) ..  
 \* 547 \*  
 \* 548 \* AHU\_2   =SYSTEM SYSTEM-TYPE = SZRH  
 \* 549 \*           MAX-SUPPLY-T = 120.0 MIN-SUPPLY-T = 57.0  
 \* 550 \*           COOLING-SCHEDULE = FULL\_OFF HEAT-SET-T = 120.0  
 \* 551 \*           PREHEAT-T = 41.2 MAX-HUMIDITY = 55.0  
 \* 552 \*           MIN-HUMIDITY = 35.0 ECONO-LIMIT-T = 65.0  
 \* 553 \*           ECONO-LOW-LIMIT = 55.0 SUPPLY-CFM = 5265.  
 \* 554 \*           RETURN-CFM = 3932. RATED-CFM = 5265.  
 \* 555 \*           MIN-OUTSIDE-AIR = 0.25 SUPPLY-DELTA-T = 2.4  
 \* 556 \*           SUPPLY-KW = 0.00021  
 \* 557 \*           MOTOR-PLACEMENT = OUTSIDE-AIRFLOW  
 \* 558 \*           NIGHT-CYCLE-CTRL = STAY-OFF NIGHT-VENT-DT = 0.0  
 \* 559 \*           MIN-CFM-RATIO = 1.0 COOL-FT-MIN = 0.  
 \* 560 \*           HEATING-CAPACITY = -150857. FURNACE-AUX = 0.  
 \* 561 \*           FURNACE-HIR = 1.0 PREHEAT-SOURCE = HOT-WATER  
 \* 562 \*           RETURN-AIR-PATH = DUCT  
 \* 563 \*           ZONE-NAMES = (FOODPREP) ..  
 \* 564 \*  
 \* 565 \* AHU\_1B   =SYSTEM SYSTEM-TYPE = SZRH  
 \* 566 \*           MAX-SUPPLY-T = 120.0 MIN-SUPPLY-T = 45.0  
 \* 567 \*           PREHEAT-T = 40.0 MIN-HUMIDITY = 30.0  
 \* 568 \*           ECONO-LIMIT-T = 65.0 ECONO-LOW-LIMIT = 55.0  
 \* 569 \*           SUPPLY-CFM = 6400. RATED-CFM = 6400.  
 \* 570 \*           MIN-OUTSIDE-AIR = 1.0 SUPPLY-DELTA-T = 2.4  
 \* 571 \*           SUPPLY-KW = 0.00065 NIGHT-CYCLE-CTRL = STAY-OFF  
 \* 572 \*           NIGHT-VENT-DT = 0.0 MIN-CFM-RATIO = 1.0  
 \* 573 \*           HEATING-CAPACITY = -324864. FURNACE-AUX = 0.  
 \* 574 \*           PREHEAT-SOURCE = HOT-WATER  
 \* 575 \*           ZONE-NAMES = (FDPREPHOOD) ..  
 \* 576 \*  
 \* 577 \*  
 \* 578 \*           \$ HOURLY REPORT DESCRIPTION  
 \* 579 \*  
 \* 580 \* SYST1   =REPORT-BLOCK VARIABLE-TYPE = FOODPREP  
 \* 581 \*           VARIABLE-LIST = (6) ..  
 \* 582 \* SYST2   =REPORT-BLOCK VARIABLE-TYPE = SHORTORDER  
 \* 583 \*           VARIABLE-LIST = (6) ..  
 \* 584 \* SYST3   =REPORT-BLOCK VARIABLE-TYPE = DINING  
 \* 585 \*           VARIABLE-LIST = (6) ..  
 \* 586 \* SYST4   =REPORT-BLOCK VARIABLE-TYPE = WAREWASH  
 \* 587 \*           VARIABLE-LIST = (6) ..

```

*588 *SYST5  =REPORT-BLOCK VARIABLE-TYPE = FOODPREP_B
*589 *      VARIABLE-LIST = (6) ..
*590 *REP1    = HOURLY-REPORT REPORT-SCHEDULE = FULL_ON
*591 *      REPORT-BLOCK = (SYST1,SYST2,SYST3,SYST4,SYST5)
*592 * ..
*593 *END ..
*594 *COMPUTE SYSTEMS ..
*595 *
*596 *INPUT PLANT ..

```

# PDL PROCESSOR INPUT DATA

3/18/1995 9:30:35 PDL RUN 1

```

*597 *
*598 *
*599 *      $-----$
*600 *      $EZ-DOE PLANTS INPUT$
*601 *      $-----$
*602 *
*603 *      $ GENERAL PROJECT DATA
*604 *
*605 *TITLE LINE-1 * EMC ENGINEERS INC. *
*606 * LINE-2 *EZDOE - ELITE SOFTWARE DEVELOPMENT INC*
*607 * LINE-3 * DENVER, CO 80227 *
*608 *
*609 * LINE-4 *BUILDING 10550, ENL PERS DINING *
*610 * LINE-5 *BASE MODEL *..
*611 *
*612 *ABORT      ERRORS ..
*613 *DIAGNOSTIC  WARNINGS ..
*614 *PLANT-REPORT VERIFICATION=(PV-A)
*615 *      SUMMARY=(PS-A,PS-B,PS-D,PS-H,PS-I,BEPS) ..
*616 *
*617 *      $ SCHEDULES
*618 *
*619 *DAY_ON      =DAY-SCHEDULE (1,7) (0.)
*620 *      (8,18) (1.)
*621 *      (19,24) (0.) ..
*622 *
*623 *
*624 *FULL_ON    =WEEK-SCHEDULE (ALL) DAY_ON ..
*625 *
*626 *
*627 * $ heating plant schedule
*628 * heating   =SCHEDULE THRU DEC 31 FULL_ON ..
*629 *

```

\* 630 \*  
\* 631 \*  
\* 632 \*           \$ EQUIPMENT DESCRIPTION  
\* 633 \*  
\* 634 \* HEAT-EXGR =PLANT-EQUIPMENT TYPE = HTANK-STORAGE  
\* 635 \*           SIZE = 1.5 ..  
\* 636 \*  
\* 637 \* PLANT-PARAMETERS BOILER-FUEL = NATURAL-GAS MAKEUP-WTR-T = 50.  
\* 638 \*           STM-BOILER-HIR = 0.76 HW-BOILER-HIR = 1.27  
\* 639 \*           CHILLER-CONTROL = STANDBY OPEN-REC-COND-TYPE = AIR  
\* 640 \*           HERM-REC-COND-TYPE = AIR COMP-TO-TWR-WTR = 2.77  
\* 641 \*           CCIRC-HEAD = 100.0 HCIRC-HEAD = 50.0 ..  
\* 642 \*  
\* 643 \*  
\* 644 \* PART-LOAD-RATIO TYPE = HW-BOILER  
\* 645 \*           MIN-RATIO     = 0.2500 MAX-RATIO     = 1.0000  
\* 646 \*           OPERATING-RATIO = 1.0000 ELEC-INPUT-RATIO = 0.0220 ..  
\* 647 \*  
\* 648 \* ENERGY-RESOURCE RESOURCE = ELECTRICITY ..  
\* 649 \* ENERGY-RESOURCE RESOURCE = STEAM SOURCE-SITE-EFF = 1.000 ..  
\* 650 \*  
\* 651 \* ENERGY-STORAGE HEAT-STORE-RATE = 1.51 HEAT-SUPPLY-RATE = 1.51  
\* 652 \*           HTANK-BASE-T = 144.0 HTANK-T-RANGE = 15.6  
\* 653 \*           HEAT-STORE-SCH = heating ..  
\* 654 \*  
\* 655 \* HEAT-RECOVERY  
\* 656 \*           SUPPLY-1 = (HTANK-STORAGE)  
\* 657 \*           DEMAND-1 = (SPACE-HEAT,PROCESS-HEAT) ..  
\* 658 \*  
\* 659 \*  
\* 660 \*  
\* 661 \* END ..  
\* 662 \* COMPUTE PLANT ..  
\* 663 \* STOP ..

ENERGY TYPE IN SITE MBTU-	STEAM	ELECTRICITY	NATURAL-GAS
CATEGORY OF USE			
SPACE HEAT	4571.84	0.00	0.00
SPACE COOL	0.00	0.00	0.00
HVAC AUX	0.00	501.28	0.00
DOM HOT WTR	1977.94	0.00	0.00
AUX SOLAR	0.00	0.00	0.00
LIGHTS	0.00	165.18	0.00
VERT TRANS	0.00	0.00	0.00
MISC EQUIP	0.00	798.25	1042.82
	-----	-----	-----
TOTAL	6549.78	1464.71	1042.82

TOTAL SITE ENERGY 9057.45 MBTU 582.1 KBTU/SQFT-YR GROSS-AREA 613.8 KBTU/SQFT-YR NET-ARE  
 TOTAL SOURCE ENERGY 11991.26 MBTU 770.6 KBTU/SQFT-YR GROSS-AREA 812.6 KBTU/SQFT-YR NET-

PERCENT OF HOURS ANY SYSTEM ZONE OUTSIDE OF THROTTLING RANGE = 0.0  
 PERCENT OF HOURS ANY PLANT LOAD NOT SATISFIED = 0.0

NOTE ELECTRICITY AND/OR FUEL USED TO GENERATE ELECTRICITY IS APPORTIONED BASED  
 ON THE YEARLY DEMAND. ALL OTHER ENERGY TYPES ARE APPORTIONED HOURLY.



EMC ENGINEERS INC. EZDOE - ELITE SOFTWARE DEVELOPMENT INC DOE-2.1D 3/18/1995 9:30:35 PDL  
DENVER, CO 80227 BUILDING 10550, ENL PERS DINING BASE MODEL  
REPORT- PS-B MONTHLY PEAK AND TOTAL ENERGY USE WEATHER FILE- MASSENA, NY

MO	UTILITY- STEAM	ELECTRICITY	NATURAL-GAS
JAN	TOTAL(MBTU)	1037.126	124.811
	PEAK(KBTU)	2122.442	336.273
	DY/HR	5/ 9	31/16
FEB	TOTAL(MBTU)	823.347	112.732
	PEAK(KBTU)	1721.236	336.273
	DY/HR	5/ 5	28/16
MAR	TOTAL(MBTU)	814.002	124.811
	PEAK(KBTU)	1850.933	336.273
	DY/HR	9/ 6	31/16
APR	TOTAL(MBTU)	519.618	120.785
	PEAK(KBTU)	1330.86	336.273
	DY/HR	3/ 5	30/16
MAY	TOTAL(MBTU)	388.104	124.578
	PEAK(KBTU)	1007.019	336.273
	DY/HR	17/ 5	29/16
JUN	TOTAL(MBTU)	247.845	119.889
	PEAK(KBTU)	722.173	336.273
	DY/HR	8/ 5	29/16
JUL	TOTAL(MBTU)	216.337	122.978
	PEAK(KBTU)	635.369	336.273
	DY/HR	25/ 5	31/16
AUG	TOTAL(MBTU)	243.975	123.752
	PEAK(KBTU)	653.788	336.273
	DY/HR	22/ 5	31/16
SEP	TOTAL(MBTU)	308.161	119.993
	PEAK(KBTU)	958.463	336.273
	DY/HR	24/ 4	29/16
OCT	TOTAL(MBTU)	451.101	124.782
	PEAK(KBTU)	1137.272	336.273
	DY/HR	21/ 6	31/16
NOV	TOTAL(MBTU)	624.75	120.785
	PEAK(KBTU)	1481.577	336.273
	DY/HR	29/ 7	30/16

DEC	TOTAL(MBTU)	875.473	124.811	88.576
	PEAK(KBTU)	1801.112	336.273	119.053
	DY/HR	31/ 4	31/16	31/24
	ONE YEAR	6549.839	1464.705	1042.905
	USE/PEAK	2122.442	336.273	119.053

**COMPUTER SIMULATIONS**  
BUILDING 10550

RUN 1 - SCHEDULE START/STOP AND NIGHT SETBACK

INPUT LOADS ..

```
$-----$  
$ E Z - D O E   L O A D S   I N P U T $  
$-----$
```

\$ GENERAL PROJECT DATA

```
TITLE  LINE-1 *   EMC   ENGINEERS   INC.   *  
        LINE-2 *EZDOE - ELITE SOFTWARE DEVELOPMENT INC*  
        LINE-3 *   DENVER,   CO   80227   *  
  
        LINE-4 *BUILDING 10550, ENL PERS DINING   *  
        LINE-5 *MODEL WITH SET BACK               * ..
```

```
ABORT      ERRORS ..  
DIAGNOSTIC WARNINGS ..  
LOADS-REPORT VERIFICATION=(LV-A,LV-B,LV-C)  
BUILDING-LOCATION SUMMARY=(LS-A,LS-B,LS-C,LS-D,LS-E,LS-F,LS-K) ..  
                LATITUDE = 44.0  
                ALTITUDE = 655.  
                AZIMUTH = -40.  
                TIME-ZONE = 5  
                GROSS-AREA = 15560  
                HOLIDAY = NO  
                SHIELDING-COEF = 0.29  
                X-REF = 0.0  
                Y-REF = 0.0 ..  
RUN-PERIOD  JAN 1 1994 THRU DEC 31 1994 ..
```

\$ SCHEDULES

```
LIGHTS      =DAY-SCHEDULE (1,2) (1.)  
                (3,11) (0.5)  
                (12,13) (0.6)  
                (14,17) (1.)  
                (18) (0.1)  
                (19,24) (0.) ..  
  
OCCUP        =DAY-SCHEDULE (1,2) (0.)  
                (3) (0.5)  
                (4,5) (0.)  
                (6,10) (0.1,0.4,0.7,0.1,0.5)  
                (11,12) (0.4,0.8)  
                (13,15) (0.1)  
                (16,18) (0.3,1.,0.1)  
                (19,24) (0.) ..  
  
APPLIANCE    =DAY-SCHEDULE (1) (0.)  
                (2,3) (0.7)  
                (4,12) (0.02)  
                (13,15) (0.6)  
                (16,18) (0.02)  
                (19,20) (0.7)  
                (21,24) (0.8) ..  
  
FULL_ON_D    =DAY-SCHEDULE (1,24) (1.) ..  
FULL_OFFD    =DAY-SCHEDULE (1,24) (0.) ..  
appliance    =DAY-SCHEDULE (1,3) (0.)  
                (4) (0.1)  
                (5,6) (0.4)  
                (7,11) (0.6,0.7,0.3,0.4,0.6)  
                (12,16) (0.7,0.6,0.4,0.6,0.8)  
                (17,18) (0.5,0.1)  
                (19,24) (0.) ..  
  
lights       =DAY-SCHEDULE (1,3) (0.)  
                (4,6) (0.2,0.4,0.5)  
                (7,16) (0.8)  
                (17,18) (0.7,0.4)  
                (19,24) (0.) ..  
  
PEOPLE       =WEEK-SCHEDULE (ALL) OCCUP ..  
LIGHTS_WK    =WEEK-SCHEDULE (ALL) lights ..  
APPLI_WK     =WEEK-SCHEDULE (ALL) appliance ..  
FULL_ON_W    =WEEK-SCHEDULE (ALL) FULL_ON_D ..  
FULL_OFFW    =WEEK-SCHEDULE (ALL) FULL_OFFD ..  
  
$ FULL ON SCHEDULE  
FULL_ON      =SCHEDULE THRU DEC 31 FULL_ON_W ..  
  
$ LOADS OCCUPANCY SCHED  
OCCUPANCY    =SCHEDULE THRU DEC 31 PEOPLE ..  
  
$ LIGHTING SCHEDULE  
LIGHTS_ON    =SCHEDULE THRU DEC 31 LIGHTS_WK ..  
  
$ APPLIANCE SCHEDULE  
APPLI_ON     =SCHEDULE THRU DEC 31 APPLI_WK ..  
  
$ COND VENTIL SCHED  
CND_SCHED    =SCHEDULE THRU MAR 1 FULL OFFW  
                THRU NOV 30 FULL_ON_W  
                THRU DEC 31 FULL_OFFW ..
```

# \$ CONSTRUCTION TYPES

```

$ DOOR CONSTRUCTION
DOORCON =CONSTRUCTION U-VALUE = 0.400 ..
FLOOR =CONSTRUCTION U-VALUE = 0.100
          ABSORPTANCE = 1.000
          ROUGHNESS = 1 ..
ROOFCON =CONSTRUCTION U-VALUE = 0.050 ..
EXWALL =CONSTRUCTION U-VALUE = 0.200
          ABSORPTANCE = 0.750 ..
INWALL =CONSTRUCTION U-VALUE = 0.500 ..

$ APPRX OF AIR FLOW BETWEEN SPACES
AIR_WALL =CONSTRUCTION U-VALUE = 20.000 ..

GTYPE_1 =GLASS-TYPE SHADING-COEF = 0.400
          PANES = 1
          GLASS-CONDUCTANCE = 1.130 ..
GTYPE_2 =GLASS-TYPE SHADING-COEF = 0.300
          PANES = 1
          GLASS-CONDUCTANCE = 0.790 ..
GTYPE_3 =GLASS-TYPE SHADING-COEF = 0.400
          PANES = 1
          GLASS-CONDUCTANCE = 0.360 ..

```

# \$ SPACE DESCRIPTION

```

FOODPREP =SPACE AREA = 3015.0 VOLUME = 27135.0
AZIMUTH = -40 ZONE-TYPE = CONDITIONED
PEOPLE-SCHEDULE = OCCUPANCY NUMBER-OF-PEOPLE = 15.0
PEOPLE-HEAT-GAIN = 640.0
LIGHTING-TYPE = REC-FLUOR-RV LIGHTING-KW = 3.0
LIGHT-TO-SPACE = 1.0 LIGHTING-SCHEDULE = LIGHTS_ON
EQUIP-SCHEDULE = APPLI_ON EQUIPMENT-KW = 57.0
EQUIP-SENSIBLE = 0.0 SOURCE-SCHEDULE = FULL_ON
SOURCE-TYPE = GAS SOURCE-BTU/HR = 119053.0
SOURCE-SENSIBLE = 0.0 INF-METHOD = AIR-CHANGE
AIR-CHANGES/HR = 0.33 INF-SCHEDULE = FULL_ON ..

E-W HEIGHT = 9.0 WIDTH = 44.0 CONS = EXWALL
  AZIMUTH = -40 ..

I-W HEIGHT = 9.0 WIDTH = 87.0 CONS = INWALL
  AZIMUTH = -130 NEXT-TO = SHORTORDER ..

I-W HEIGHT = 9.0 WIDTH = 44.0 CONS = INWALL
  AZIMUTH = 140 NEXT-TO = SHORTORDER ..

E-W HEIGHT = 9.0 WIDTH = 87.0 CONS = EXWALL
  AZIMUTH = 50 ..

DOOR HEIGHT = 8.0 WIDTH = 6.0 CONS = DOORCON
  MULTIPLIER = 2.0 ..

ROOF HEIGHT = 87.0 WIDTH = 44.0 CONS = ROOFCON
  AZIMUTH = -40 TILT = 0 ..

U-W HEIGHT = 87.0 WIDTH = 44.0 CONS = FLOOR
  AZIMUTH = -40 ..

SHORTORDER =SPACE AREA = 2573.0 VOLUME = 23157.0
AZIMUTH = -40 ZONE-TYPE = CONDITIONED
PEOPLE-SCHEDULE = OCCUPANCY NUMBER-OF-PEOPLE = 8.0
PEOPLE-HEAT-GAIN = 640.0 LIGHTING-TYPE = INCAND
LIGHTING-KW = 1.5 LIGHT-TO-SPACE = 1.0
LIGHTING-SCHEDULE = LIGHTS_ON
EQUIP-SCHEDULE = APPLI_ON EQUIPMENT-KW = 30.0
EQUIP-SENSIBLE = 0.0 SOURCE-SCHEDULE = FULL_ON
SOURCE-TYPE = HOT-WATER SOURCE-BTU/HR = 225799.0
SOURCE-SENSIBLE = 0.0 INF-METHOD = AIR-CHANGE
AIR-CHANGES/HR = 0.5 INF-SCHEDULE = FULL_ON ..

E-W HEIGHT = 9.0 WIDTH = 27.0 CONS = EXWALL
  AZIMUTH = -40 ..

DOOR HEIGHT = 7.0 WIDTH = 3.0 CONS = ROOFCON
  MULTIPLIER = 2.0 ..

I-W HEIGHT = 9.0 WIDTH = 40.0 CONS = INWALL
  AZIMUTH = -130 NEXT-TO = WAREWASH ..

I-W HEIGHT = 9.0 WIDTH = 27.0 CONS = INWALL
  AZIMUTH = 140 NEXT-TO = DINING ..

I-W HEIGHT = 9.0 WIDTH = 40.0 CONS = INWALL
  AZIMUTH = 50 NEXT-TO = FOODPREP ..

ROOF HEIGHT = 40.0 WIDTH = 27.0 CONS = ROOFCON
  AZIMUTH = -40 TILT = 0 ..

U-W HEIGHT = 40.0 WIDTH = 27.0 CONS = FLOOR
  AZIMUTH = -40 ..

DINING =SPACE AREA = 4982.0 VOLUME = 44838.0
AZIMUTH = -40 ZONE-TYPE = CONDITIONED
PEOPLE-SCHEDULE = OCCUPANCY NUMBER-OF-PEOPLE = 100.0
PEOPLE-HEAT-GAIN = 640.0 LIGHTING-TYPE = INCAND
LIGHTING-KW = 7.0 LIGHT-TO-SPACE = 1.0
LIGHTING-SCHEDULE = LIGHTS_ON
EQUIP-SCHEDULE = APPLI_ON EQUIPMENT-KW = 1.0

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EQUIP-SENSIBLE = 0.25 SOURCE-SENSIBLE = 0.0
INF-METHOD = AIR-CHANGE AIR-CHANGES/HR = 0.66
INF-SCHEDULE = FULL_ON ..

I-W HEIGHT = 9.0 WIDTH = 85.0 CONS = INWALL
  AZIMUTH = -40 NEXT-TO = WAREWASH ..

E-W HEIGHT = 9.0 WIDTH = 47.0 CONS = EXWALL
  AZIMUTH = -130 ..

E-W HEIGHT = 9.0 WIDTH = 85.0 CONS = EXWALL
  AZIMUTH = 140 ..

WINDOW HEIGHT = 7.0 WIDTH = 4.0 G-T = GTYPE_1
  MULTIPLIER = 6.0 ..

DOOR HEIGHT = 7.0 WIDTH = 3.0 CONS = ROOFCON ..

I-W HEIGHT = 9.0 WIDTH = 47.0 CONS = INWALL
  AZIMUTH = 50 NEXT-TO = FOODPREP ..

ROOF HEIGHT = 47.0 WIDTH = 85.0 CONS = ROOFCON
  AZIMUTH = -40 TILT = 0 ..

U-W HEIGHT = 47.0 WIDTH = 85.0 CONS = FLOOR
  AZIMUTH = -40 ..

WAREWASH =SPACE AREA = 3187.0 VOLUME = 28683.0
  AZIMUTH = -40 ZONE-TYPE = CONDITIONED
  PEOPLE-SCHEDULE = OCCUPANCY NUMBER-OF-PEOPLE = 5.0
  PEOPLE-HEAT-GAIN = 640.0 LIGHTING-TYPE = INCAND
  LIGHTING-KW = 1.5 LIGHT-TO-SPACE = 1.0
  LIGHTING-SCHEDULE = LIGHTS_ON
  EQUIP-SCHEDULE = APPLI_ON EQUIPMENT-KW = 1.0
  EQUIP-SENSIBLE = 0.25 SOURCE-SENSIBLE = 0.0
  INF-METHOD = AIR-CHANGE AIR-CHANGES/HR = 0.66
  INF-SCHEDULE = FULL_ON ..

E-W HEIGHT = 9.0 WIDTH = 55.0 CONS = EXWALL
  AZIMUTH = -40 ..

DOOR HEIGHT = 7.0 WIDTH = 3.0 CONS = DOORCON
  MULTIPLIER = 3.0 ..

E-W HEIGHT = 9.0 WIDTH = 40.0 CONS = EXWALL
  AZIMUTH = -130 ..

I-W HEIGHT = 9.0 WIDTH = 55.0 CONS = INWALL
  AZIMUTH = 140 NEXT-TO = DINING ..

I-W HEIGHT = 9.0 WIDTH = 40.0 CONS = INWALL
  AZIMUTH = 50 NEXT-TO = SHORTORDER ..

ROOF HEIGHT = 40.0 WIDTH = 55.0 CONS = ROOFCON
  AZIMUTH = -40 TILT = 0 ..

U-W HEIGHT = 40.0 WIDTH = 55.0 CONS = FLOOR
  AZIMUTH = -40 ..

FOODPREP_B =SPACE AREA = 800.0 VOLUME = 7200.0
  AZIMUTH = -40 ZONE-TYPE = CONDITIONED
  PEOPLE-SCHEDULE = FULL_ON NUMBER-OF-PEOPLE = 10.0
  LIGHTING-SCHEDULE = FULL_ON EQUIP-SCHEDULE = FULL_ON
  EQUIP-SENSIBLE = 0.25 FLOOR-WEIGHT = 0.1
  INF-METHOD = AIR-CHANGE AIR-CHANGES/HR = 0.66
  INF-SCHEDULE = FULL_ON ..

I-W HEIGHT = 9.0 WIDTH = 30.0 CONS = AIR_WALL
  AZIMUTH = -40 NEXT-TO = FOODPREP ..

FDPREPHOOD =SPACE AREA = 200.0 VOLUME = 1600.0
  AZIMUTH = -40 TEMPERATURE = (55.)
  ZONE-TYPE = CONDITIONED PEOPLE-SCHEDULE = FULL_ON
  AREA/PERSON = 10.0 LIGHTING-SCHEDULE = FULL_ON
  EQUIP-SCHEDULE = FULL_ON EQUIP-SENSIBLE = 0.25
  FLOOR-WEIGHT = 0.1 INF-METHOD = AIR-CHANGE
  AIR-CHANGES/HR = 0.5 INF-SCHEDULE = FULL_ON ..

I-W HEIGHT = 1.0 WIDTH = 1.0 CONS = INWALL
  AZIMUTH = -40 NEXT-TO = FOODPREP_B ..

END ..
COMPUTE LOADS ..
INPUT SYSTEMS ..

$-----$
$ E Z - D O E   S Y S T E M S   I N P U T $
$-----$

$ GENERAL PROJECT DATA

TITLE LINE-1 * EMC ENGINEERS INC. *
LINE-2 *EZDOE - ELITE SOFTWARE DEVELOPMENT INC*
LINE-3 * DENVER, CO 80227 *

LINE-4 *BUILDING 10550, ENL PERS DINING *
LINE-5 *MODEL WITH SET BACK * ..

ABORT ERRORS ..
DIAGNOSTIC WARNINGS ..
SYSTEMS-REPORT SUMMARY=(SS-A,SS-B,SS-C) ..

$ SCHEDULES

```

```

D_FULL      =DAY-SCHEDULE (1,24) (1.) ..
AHU1D       =DAY-SCHEDULE (1,4) (0.) ..
              (5,18) (1.) ..
              (19,24) (0.) ..
AHU2D       =DAY-SCHEDULE (1,2) (1.) ..
              (3,17) (0.) ..
              (18,24) (1.) ..
              (1,24) (0.) ..
D_OFF       =DAY-SCHEDULE (1,4) (0.) ..
HOODS_ON_D  =DAY-SCHEDULE (5,18) (1.) ..
              (19,24) (0.) ..
AHU3W_CFMW  =DAY-SCHEDULE (1,4) (0.5) ..
              (5,18) (1.) ..
              (19,24) (0.5) ..
HEAT_68_D   =DAY-SCHEDULE (1,24) (68.) ..
HEAT_40_D   =DAY-SCHEDULE (1,24) (40.) ..
HEAT_55_D   =DAY-SCHEDULE (1,24) (55.) ..
AHU4W_CFMW  =DAY-SCHEDULE (1,24) (0.77) ..
AHU5W_CFMW  =DAY-SCHEDULE (1,24) (0.5) ..
AHU2W_OA_D  =DAY-SCHEDULE (1,24) (0.13) ..
85_D        =DAY-SCHEDULE (1,24) (85.) ..
FAN_WSB_D   =DAY-SCHEDULE (1,3) (0.) ..
              (4,19) (1.) ..
              (20,24) (0.) ..
              (1,3) (50.) ..
              (4,19) (74.) ..
              (20,24) (50.) ..

W_FULL      =WEEK-SCHEDULE (ALL) D_FULL ..
AHU1_WK     =WEEK-SCHEDULE (ALL) AHU1D ..
AHU2_WK     =WEEK-SCHEDULE (ALL) AHU2D ..
W_OFF       =WEEK-SCHEDULE (ALL) D_OFF ..
AHU3W_CFMW  =WEEK-SCHEDULE (ALL) AHU3W_CFMW ..
HEAT_68_W   =WEEK-SCHEDULE (ALL) HEAT_68_D ..
HEAT_40_W   =WEEK-SCHEDULE (ALL) HEAT_40_D ..
HEAT_55_W   =WEEK-SCHEDULE (ALL) HEAT_55_D ..
AHU4W_CFMW  =WEEK-SCHEDULE (ALL) AHU4W_CFMW ..
AHU5W_CFMW  =WEEK-SCHEDULE (ALL) AHU5W_CFMW ..
AHU2W_OA_W  =WEEK-SCHEDULE (ALL) AHU2W_OA_D ..
85_W        =WEEK-SCHEDULE (ALL) 85_D ..
FAN_WSB_W   =WEEK-SCHEDULE (ALL) FAN_WSB_D ..
HT68_WSB_W  =WEEK-SCHEDULE (ALL) HT68_WSB_D ..

FULL_ON     =SCHEDULE THRU DEC 31 W_FULL ..

$ AHU1 HEAT SCHEDULE
AHU1_ONH    =SCHEDULE THRU DEC 31 AHU1_WK ..

$ AHU2 HEAT SCHED
AHU2_ONH    =SCHEDULE THRU APR 15 AHU2_WK
              THRU OCT 1 W_OFF
              THRU DEC 31 AHU2_WK ..

$ HEAT SCHEDULE
HEAT_SCED   =SCHEDULE THRU APR 15 W_FULL
              THRU OCT 1 W_OFF
              THRU DEC 31 W_FULL ..

$ SUPPLY CFM RATIO
AHU3W_CFM   =SCHEDULE THRU MAY 15 AHU3W_CFMW
              THRU OCT 1 W_FULL
              THRU DEC 31 AHU3W_CFMW ..

$ AHU2 COOL SCHED
AHU2_C      =SCHEDULE THRU DEC 31 AHU2_WK ..

HEAT_68     =SCHEDULE THRU DEC 31 HEAT_68_W ..
HEAT_40     =SCHEDULE THRU DEC 31 HEAT_40_W ..
HEAT_55     =SCHEDULE THRU DEC 31 HEAT_55_W ..

$ CFM RATIO
AHU4_CFM    =SCHEDULE THRU MAY 15 AHU4W_CFMW
              THRU OCT 1 W_FULL
              THRU DEC 31 AHU4W_CFMW ..

$ AHU2 & AHU5 CFM RATIOS
AHU2&5_CFM  =SCHEDULE THRU MAY 15 AHU5W_CFMW
              THRU OCT 1 W_FULL
              THRU DEC 31 AHU5W_CFMW ..

$ AHU2 OA SCHEDULE
AHU2_OA     =SCHEDULE THRU MAY 15 AHU2W_OA_W
              THRU OCT 1 W_FULL
              THRU DEC 31 AHU2W_OA_W ..

$ VENTILATION SCHED
COOL_ON     =SCHEDULE THRU MAY 15 W_OFF
              THRU OCT 1 W_FULL
              THRU DEC 31 W_OFF ..

COOL_TEMP   =SCHEDULE THRU DEC 31 85_W ..

```

FULL\_OFF =SCHEDULE THRU DEC 31 W\_OFF ..  
FAN\_W\_SB =SCHEDULE THRU DEC 31 FAN\_WSB\_W ..  
HT\_68\_W\_SB =SCHEDULE THRU DEC 31 HT68\_WSB\_W ..

\$ ZONE DESCRIPTION

FOODPREP =ZONE DESIGN-HEAT-T = 68.0 DESIGN-COOL-T = 80.0  
HEAT-TEMP-SCH = HT\_68\_W\_SB ZONE-TYPE = CONDITIONED  
THERMOSTAT-TYPE = PROPORTIONAL  
BASEBOARD-CTRL = THERMOSTATIC  
BASEBOARD-RATING = -39050. ASSIGNED-CFM = 5265.  
OUTSIDE-AIR-CFM = 1333. SIZING-OPTION = FROM-LOADS  
MIN-CFM-RATIO = 1.0 EXHAUST-CFM = 1333.0  
EXHAUST-STATIC = 0.9 ..

SHORTORDER =ZONE DESIGN-HEAT-T = 68.0 DESIGN-COOL-T = 80.0  
HEAT-TEMP-SCH = HT\_68\_W\_SB ZONE-TYPE = CONDITIONED  
THERMOSTAT-TYPE = PROPORTIONAL  
BASEBOARD-CTRL = THERMOSTATIC  
BASEBOARD-RATING = -5500. ASSIGNED-CFM = 4670.  
OUTSIDE-AIR-CFM = 4670. SIZING-OPTION = FROM-LOADS  
MIN-CFM-RATIO = 1.0 MIN-CFM-SCH = AHU3W\_CFM  
EXHAUST-CFM = 4670.0 EXHAUST-STATIC = 0.9 ..

DINING =ZONE DESIGN-HEAT-T = 68.0 DESIGN-COOL-T = 80.0  
HEAT-TEMP-SCH = HT\_68\_W\_SB ZONE-TYPE = CONDITIONED  
THERMOSTAT-TYPE = PROPORTIONAL ASSIGNED-CFM = 7430.  
OUTSIDE-AIR-CFM = 360. SIZING-OPTION = FROM-LOADS  
MIN-CFM-RATIO = 1.0 MIN-CFM-SCH = AHU3W\_CFM  
EXHAUST-CFM = 360.0 EXHAUST-STATIC = 0.9 ..

WAREWASH =ZONE DESIGN-HEAT-T = 68.0 DESIGN-COOL-T = 80.0  
HEAT-TEMP-SCH = HT\_68\_W\_SB ZONE-TYPE = CONDITIONED  
THERMOSTAT-TYPE = PROPORTIONAL  
BASEBOARD-CTRL = THERMOSTATIC  
BASEBOARD-RATING = -8100. ASSIGNED-CFM = 3145.  
OUTSIDE-AIR-CFM = 3145. SIZING-OPTION = FROM-LOADS  
MIN-CFM-RATIO = 1.0 MIN-CFM-SCH = AHU2&5\_CFM  
EXHAUST-CFM = 3145.0 EXHAUST-STATIC = 0.9 ..

FOODPREP\_B =ZONE DESIGN-HEAT-T = 68.0 DESIGN-COOL-T = 85.0  
HEAT-TEMP-SCH = HT\_68\_W\_SB ZONE-TYPE = CONDITIONED  
THERMOSTAT-TYPE = PROPORTIONAL  
BASEBOARD-CTRL = THERMOSTATIC ASSIGNED-CFM = 1600.  
OUTSIDE-AIR-CFM = 1600. SIZING-OPTION = FROM-LOADS  
MIN-CFM-RATIO = 1.0 EXHAUST-CFM = 1600.0  
EXHAUST-STATIC = 0.9 HEATING-CAPACITY = -48384.0 ..

FDPREPHOOD =ZONE DESIGN-HEAT-T = 40.0 DESIGN-COOL-T = 85.0  
HEAT-TEMP-SCH = HEAT\_40 ZONE-TYPE = CONDITIONED  
THERMOSTAT-TYPE = PROPORTIONAL ASSIGNED-CFM = 6400.  
OUTSIDE-AIR-CFM = 6400. SIZING-OPTION = FROM-LOADS  
MIN-CFM-RATIO = 1.0 EXHAUST-CFM = 6400.0  
EXHAUST-STATIC = 2.0 ..

\$ SYSTEM DESCRIPTION

AHU\_3 =SYSTEM SYSTEM-TYPE = SZRH  
MAX-SUPPLY-T = 120.0 MIN-SUPPLY-T = 57.0  
COOLING-SCHEDULE = FULL OFF HEAT-SET-T = 120.0  
PREHEAT-T = 41.2 MAX-HUMIDITY = 55.0  
MIN-HUMIDITY = 35.0 ECONO-LIMIT-T = 65.0  
ECONO-LOW-LIMIT = 55.0 SUPPLY-CFM = 4670.  
RATED-CFM = 4670. MIN-OUTSIDE-AIR = 1.0  
FAN-SCHEDULE = FAN\_W\_SB SUPPLY-DELTA-T = 2.4  
SUPPLY-KW = 0.0002  
MOTOR-PLACEMENT = OUTSIDE-AIRFLOW  
NIGHT-CYCLE-CTRL = CYCLE-ON-ANY  
RETURN-STATIC = 0.53 RETURN-EFF = 0.97  
NIGHT-VENT-DT = 0.0 MIN-CFM-RATIO = 1.0  
HEATING-CAPACITY = -396650. FURNACE-AUX = 0.  
FURNACE-HIR = 1.0 PREHEAT-SOURCE = HOT-WATER  
RETURN-AIR-PATH = DUCT  
ZONE-NAMES = (SHORTORDER) ..

AHU\_4 =SYSTEM SYSTEM-TYPE = SZRH  
MAX-SUPPLY-T = 120.0 MIN-SUPPLY-T = 57.0  
COOLING-SCHEDULE = FULL OFF HEAT-SET-T = 100.0  
PREHEAT-T = 41.2 MAX-HUMIDITY = 65.0  
MIN-HUMIDITY = 35.0 ECONO-LIMIT-T = 65.0  
ECONO-LOW-LIMIT = 55.0 SUPPLY-CFM = 7430.  
RETURN-CFM = 7070. RATED-CFM = 7430.  
MIN-OUTSIDE-AIR = 0.05 FAN-SCHEDULE = FAN\_W\_SB  
SUPPLY-DELTA-T = 2.4 SUPPLY-KW = 0.00025  
MOTOR-PLACEMENT = OUTSIDE-AIRFLOW  
NIGHT-CYCLE-CTRL = CYCLE-ON-ANY  
RETURN-STATIC = 0.95 RETURN-EFF = 0.97  
NIGHT-VENT-DT = 0.0 MIN-CFM-RATIO = 1.0  
HEATING-CAPACITY = -256775. FURNACE-AUX = 0.  
FURNACE-HIR = 1.0 PREHEAT-SOURCE = HOT-WATER  
RETURN-AIR-PATH = DUCT  
ZONE-NAMES = (DINING) ..

AHU\_1 =SYSTEM SYSTEM-TYPE = SZRH  
MAX-SUPPLY-T = 120.0 MIN-SUPPLY-T = 45.0  
COOLING-SCHEDULE = FULL OFF HEAT-SET-T = 120.0  
PREHEAT-T = 40.0 MAX-HUMIDITY = 55.0  
MIN-HUMIDITY = 35.0 ECONO-LIMIT-T = 65.0  
ECONO-LOW-LIMIT = 55.0 SUPPLY-CFM = 1600.  
RATED-CFM = 1600. MIN-OUTSIDE-AIR = 1.0  
FAN-SCHEDULE = FAN\_W\_SB SUPPLY-DELTA-T = 2.4  
SUPPLY-KW = 0.00065  
MOTOR-PLACEMENT = OUTSIDE-AIRFLOW



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NIGHT-CYCLE-CTRL = CYCLE-ON-ANY NIGHT-VENT-DT = 0.0
MIN-CFM-RATIO = 1.0 REHEAT-DELTA-T = 32.
COOL-FT-MIN = 0. HEATING-CAPACITY = -81216.
FURNACE-AUX = 0. FURNACE-HIR = 1.0
PREHEAT-SOURCE = HOT-WATER RETURN-AIR-PATH = DUCT
ZONE-NAMES = (FOODPREP_B) ..

AHU_5      =SYSTEM  SYSTEM-TYPE = SZRH
MAX-SUPPLY-T = 120.0 MIN-SUPPLY-T = 57.0
COOLING-SCHEDULE = FULL OFF HEAT-SET-T = 100.0
PREHEAT-T = 41.2 MAX-HUMIDITY = 65.0
MIN-HUMIDITY = 35.0 ECONO-LIMIT-T = 65.0
ECONO-LOW-LIMIT = 55.0 SUPPLY-CFM = 3145.
RATED-CFM = 3145. MIN-OUTSIDE-AIR = 1.0
FAN-SCHEDULE = FAN_W_SB SUPPLY-DELTA-T = 2.4
SUPPLY-KW = 0.00053
MOTOR-PLACEMENT = OUTSIDE-AIRFLOW
NIGHT-CYCLE-CTRL = CYCLE-ON-ANY
RETURN-STATIC = 1.38 RETURN-EFF = 0.97
NIGHT-VENT-DT = 0.0 MIN-CFM-RATIO = 1.0
HEATING-CAPACITY = -263764. FURNACE-AUX = 0.
FURNACE-HIR = 1.0 PREHEAT-SOURCE = HOT-WATER
RETURN-AIR-PATH = DUCT
ZONE-NAMES = (WAREWASH) ..

AHU_2      =SYSTEM  SYSTEM-TYPE = SZRH
MAX-SUPPLY-T = 120.0 MIN-SUPPLY-T = 57.0
COOLING-SCHEDULE = FULL OFF HEAT-SET-T = 120.0
PREHEAT-T = 41.2 MAX-HUMIDITY = 55.0
MIN-HUMIDITY = 35.0 ECONO-LIMIT-T = 65.0
ECONO-LOW-LIMIT = 55.0 SUPPLY-CFM = 5265.
RETURN-CFM = 3932. RATED-CFM = 5265.
MIN-OUTSIDE-AIR = 0.25 FAN-SCHEDULE = FAN_W_SB
SUPPLY-DELTA-T = 2.4 SUPPLY-KW = 0.00021
MOTOR-PLACEMENT = OUTSIDE-AIRFLOW
NIGHT-CYCLE-CTRL = CYCLE-ON-ANY NIGHT-VENT-DT = 0.0
MIN-CFM-RATIO = 1.0 COOL-FT-MIN = 0.
HEATING-CAPACITY = -150857. FURNACE-AUX = 0.
FURNACE-HIR = 1.0 PREHEAT-SOURCE = HOT-WATER
RETURN-AIR-PATH = DUCT
ZONE-NAMES = (FOODPREP) ..

AHU_1B     =SYSTEM  SYSTEM-TYPE = SZRH
MAX-SUPPLY-T = 120.0 MIN-SUPPLY-T = 45.0
PREHEAT-T = 40.0 MIN-HUMIDITY = 30.0
ECONO-LIMIT-T = 65.0 ECONO-LOW-LIMIT = 55.0
SUPPLY-CFM = 6400. RATED-CFM = 6400.
MIN-OUTSIDE-AIR = 1.0 FAN-SCHEDULE = FAN_W_SB
SUPPLY-DELTA-T = 2.4 SUPPLY-KW = 0.00065
NIGHT-CYCLE-CTRL = STAY-OFF NIGHT-VENT-DT = 0.0
MIN-CFM-RATIO = 1.0 HEATING-CAPACITY = -324864.
FURNACE-AUX = 0. PREHEAT-SOURCE = HOT-WATER
ZONE-NAMES = (FDPREPHOOD) ..

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# \$ HOURLY REPORT DESCRIPTION

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SYST1      =REPORT-BLOCK VARIABLE-TYPE = FOODPREP
VARIABLE-LIST = (6) ..
SYST2      =REPORT-BLOCK VARIABLE-TYPE = SHORTORDER
VARIABLE-LIST = (6) ..
SYST3      =REPORT-BLOCK VARIABLE-TYPE = DINING
VARIABLE-LIST = (6) ..
SYST4      =REPORT-BLOCK VARIABLE-TYPE = WAREWASH
VARIABLE-LIST = (6) ..
SYST5      =REPORT-BLOCK VARIABLE-TYPE = FOODPREP_B
VARIABLE-LIST = (6) ..
REP1       = HOURLY-REPORT REPORT-SCHEDULE = FULL ON
REPORT-BLOCK = (SYST1,SYST2,SYST3,SYST4,SYST5)

```

```

END
...
COMPUTE SYSTEMS ..
INPUT PLANT ..

```

```

$-----$
$ B Z - D O E P L A N T S I N P U T $
$-----$

```

# \$ GENERAL PROJECT DATA

```

TITLE LINE-1 * EMC ENGINEERS INC. *
LINE-2 *EZDOE - ELITE SOFTWARE DEVELOPMENT INC*
LINE-3 * DENVER, CO 80227 *
LINE-4 *BUILDING 10550, ENL PERS DINING *
LINE-5 *MODEL WITH SET BACK * ..

```

```

ABORT      ERRORS ..
DIAGNOSTIC WARNINGS ..
PLANT-REPORT VERIFICATION=(PV-A)
SUMMARY=(PS-A,PS-B,PS-D,PS-H,PS-I,BEPS) ..

```

# \$ SCHEDULES

```

DAY_ON     =DAY-SCHEDULE (1,7) (0.)
(8,18) (1.)
(19,24) (0.) ..

```

```

FULL_ON    =WEEK-SCHEDULE (ALL) DAY_ON ..

```

```

$ heating plant schedule
heating    =SCHEDULE THRU DEC 31 FULL_ON ..

```

\$ EQUIPMENT DESCRIPTION

HEAT-EXGR =PLANT-EQUIPMENT TYPE = HTANK-STORAGE  
SIZE = 1.5 ..

PLANT-PARAMETERS BOILER-FUEL = NATURAL-GAS MAKEUP-WTR-T = 50.  
STM-BOILER-HIR = 0.75 HW-BOILER-HIR = 1.27  
CHILLER-CONTROL = STANDBY OPEN-REC-COND-TYPE = AIR  
HERM-REC-COND-TYPE = AIR COMP-TO-TWR-WTR = 2.77  
CCIRC-HEAD = 100.0 HCIRC-HEAD = 50.0 ..

PART-LOAD-RATIO TYPE = HW-BOILER  
MIN-RATIO = 0.2500 MAX-RATIO = 1.0000  
OPERATING-RATIO = 1.0000 ELEC-INPUT-RATIO = 0.0220 ..

ENERGY-RESOURCE RESOURCE = ELECTRICITY ..  
ENERGY-RESOURCE RESOURCE = STEAM SOURCE-SITE-EFF = 1.000 ..

ENERGY-STORAGE HEAT-STORE-RATE = 1.51 HEAT-SUPPLY-RATE = 1.51  
HTANK-BASE-T = 144.0 HTANK-T-RANGE = 15.6  
HEAT-STORE-SCH = heating ..

HEAT-RECOVERY  
SUPPLY-1 = (HTANK-STORAGE)  
DEMAND-1 = (SPACE-HEAT,PROCESS-HEAT) ..

END ..  
COMPUTE PLANT ..  
STOP ..

MO	UTILITY-	STEAM	ELECTRICITY	NATURAL-GAS
	TOTAL (MBTU)	773.834	110.641	88.576
JAN	PEAK (KBTU)	2226.455	336.592	119.053
	DY/HR	26/ 7	31/16	31/24
	TOTAL (MBTU)	616.842	99.934	80.004
FEB	PEAK (KBTU)	1872.904	336.592	119.053
	DY/HR	5/ 5	28/16	28/24
	TOTAL (MBTU)	616.792	110.641	88.576
MAR	PEAK (KBTU)	1998.496	336.592	119.053
	DY/HR	9/ 5	31/16	31/24
	TOTAL (MBTU)	408.659	107.072	85.718
APR	PEAK (KBTU)	1448.688	336.592	119.053
	DY/HR	3/ 4	30/16	30/ 1
	TOTAL (MBTU)	314.293	110.451	88.576
MAY	PEAK (KBTU)	1102.113	336.592	119.053
	DY/HR	17/ 4	29/16	31/ 1
	TOTAL (MBTU)	215.597	106.268	85.718
JUN	PEAK (KBTU)	754.439	336.592	119.053
	DY/HR	8/ 5	29/16	30/ 1
	TOTAL (MBTU)	193.460	109.076	88.576
JUL	PEAK (KBTU)	669.872	336.592	119.053
	DY/HR	25/ 4	31/16	31/ 1
	TOTAL (MBTU)	209.053	109.573	88.576
AUG	PEAK (KBTU)	671.663	336.592	119.053
	DY/HR	22/ 4	31/16	31/ 1
	TOTAL (MBTU)	253.828	106.409	85.718
-SEP	PEAK (KBTU)	1049.194	336.592	119.053
	DY/HR	24/ 4	29/16	30/ 1
	TOTAL (MBTU)	355.839	110.611	88.576
OCT	PEAK (KBTU)	1187.006	336.592	119.053
	DY/HR	21/ 6	31/16	31/24
	TOTAL (MBTU)	474.850	107.072	85.718
NOV	PEAK (KBTU)	1592.215	336.592	119.053
	DY/HR	28/ 4	30/16	30/24
	TOTAL (MBTU)	655.383	110.641	88.576
DEC	PEAK (KBTU)	1932.618	336.592	119.053
	DY/HR	31/ 4	31/16	31/24
	ONE YEAR	5088.431	1298.390	1042.905
	USE/PEAK	2226.455	336.592	119.053

# INPUT LOADS ..

```

$-----$
$ E Z - D O E   L O A D S   I N P U T $
$-----$

```

## \$ GENERAL PROJECT DATA

```

TITLE  LINE-1 *   EMC      ENGINEERS      INC.      *
        LINE-2 *EZDOE - ELITE SOFTWARE DEVELOPMENT INC*
        LINE-3 *   DENVER,      CO      80227      *
        LINE-4 *BUILDING 10550, ENL PERS DINING      *
        LINE-5 *MODEL WITH SET BACK                  * ..

ABORT      ERRORS ..
DIAGNOSTIC WARNINGS ..
LOADS-REPORT VERIFICATION=(LV-A,LV-B,LV-C)
BUILDING-LOCATION SUMMARY=(LS-A,LS-B,LS-C,LS-D,LS-E,LS-F,LS-K) ..
                LATITUDE = 44.0
                ALTITUDE = 655.
                AZIMUTH = -40.
                TIME-ZONE = 5
                GROSS-AREA = 15560
                HOLIDAY = NO
                SHIELDING-COEF = 0.29
                X-REF = 0.0
                Y-REF = 0.0 ..
RUN-PERIOD  JAN 1 1994 THRU DEC 31 1994 ..

```

## \$ SCHEDULES

```

LIGHTS      =DAY-SCHEDULE (1,2) (1.)
                (3,11) (0.5)
                (12,13) (0.6)
                (14,17) (1.)
                (18) (0.1)
                (19,24) (0.) ..

OCCUP        =DAY-SCHEDULE (1,2) (0.)
                (3) (0.5)
                (4,5) (0.)
                (6,10) (0.1,0.4,0.7,0.1,0.5)
                (11,12) (0.4,0.8)
                (13,15) (0.1)
                (16,18) (0.3,1.,0.1)
                (19,24) (0.) ..

APPLIANCE    =DAY-SCHEDULE (1) (0.)
                (2,3) (0.7)
                (4,12) (0.02)
                (13,15) (0.6)
                (16,18) (0.02)
                (19,20) (0.7)
                (21,24) (0.8) ..

FULL_ON_D    =DAY-SCHEDULE (1,24) (1.) ..
FULL_OFFD    =DAY-SCHEDULE (1,24) (0.) ..
appliance    =DAY-SCHEDULE (1,3) (0.)
                (4) (0.1)
                (5,6) (0.4)
                (7,11) (0.6,0.7,0.3,0.4,0.6)
                (12,16) (0.7,0.6,0.4,0.6,0.8)
                (17,18) (0.5,0.1)
                (19,24) (0.) ..

lights       =DAY-SCHEDULE (1,3) (0.)
                (4,6) (0.2,0.4,0.5)
                (7,16) (0.8)
                (17,18) (0.7,0.4)
                (19,24) (0.) ..

PEOPLE       =WEEK-SCHEDULE (ALL) OCCUP ..
LIGHTS_WK    =WEEK-SCHEDULE (ALL) lights ..
APPLI_WK     =WEEK-SCHEDULE (ALL) appliance ..
FULL_ON_W    =WEEK-SCHEDULE (ALL) FULL_ON_D ..
FULL_OFFW    =WEEK-SCHEDULE (ALL) FULL_OFFD ..

$ FULL_ON SCHEDULE
FULL_ON      =SCHEDULE THRU DEC 31 FULL_ON_W ..

$ LOADS OCCUPANCY SCHED
OCCUPANCY    =SCHEDULE THRU DEC 31 PEOPLE ..

$ LIGHTING SCHEDULE
LIGHTS_ON    =SCHEDULE THRU DEC 31 LIGHTS_WK ..

$ APPLIANCE SCHEDULE
APPLI_ON     =SCHEDULE THRU DEC 31 APPLI_WK ..

$ COND VENTIL SCHED
CND_SCHED    =SCHEDULE THRU MAR 1 FULL OFFW
                THRU NOV 30 FULL_ON W
                THRU DEC 31 FULL_OFFW ..

```

\$ CONSTRUCTION TYPES

\$ DOOR CONSTRUCTION  
DOORCON =CONSTRUCTION U-VALUE = 0.400 ..  
FLOOR =CONSTRUCTION U-VALUE = 0.100  
ABSORPTANCE = 1.000  
ROUGHNESS = 1 ..  
ROOFCON =CONSTRUCTION U-VALUE = 0.050 ..  
EXWALL =CONSTRUCTION U-VALUE = 0.200  
ABSORPTANCE = 0.750 ..  
INWALL =CONSTRUCTION U-VALUE = 0.500 ..  
  
\$ APPRX OF AIR FLOW BETWEEN SPACES  
AIR\_WALL =CONSTRUCTION U-VALUE = 20.000 ..  
  
GTYPE\_1 =GLASS-TYPE SHADING-COEF = 0.400  
PANES = 1  
GLASS-CONDUCTANCE = 1.130 ..  
GTYPE\_2 =GLASS-TYPE SHADING-COEF = 0.300  
PANES = 1  
GLASS-CONDUCTANCE = 0.790 ..  
GTYPE\_3 =GLASS-TYPE SHADING-COEF = 0.400  
PANES = 1  
GLASS-CONDUCTANCE = 0.360 ..

\$ SPACE DESCRIPTION

FOODPREP =SPACE AREA = 3015.0 VOLUME = 27135.0  
AZIMUTH = -40 ZONE-TYPE = CONDITIONED  
PEOPLE-SCHEDULE = OCCUPANCY NUMBER-OF-PEOPLE = 15.0  
PEOPLE-HEAT-GAIN = 640.0  
LIGHTING-TYPE = REC-FLUOR-RV LIGHTING-KW = 3.0  
LIGHT-TO-SPACE = 1.0 LIGHTING-SCHEDULE = LIGHTS\_ON  
EQUIP-SCHEDULE = APPLI\_ON EQUIPMENT-KW = 57.0  
EQUIP-SENSIBLE = 0.0 SOURCE-SCHEDULE = FULL\_ON  
SOURCE-TYPE = GAS SOURCE-BTU/HR = 119053.0  
SOURCE-SENSIBLE = 0.0 INF-METHOD = AIR-CHANGE  
AIR-CHANGES/HR = 0.33 INF-SCHEDULE = FULL\_ON ..  
  
E-W HEIGHT = 9.0 WIDTH = 44.0 CONS = EXWALL  
AZIMUTH = -40 ..  
  
I-W HEIGHT = 9.0 WIDTH = 87.0 CONS = INWALL  
AZIMUTH = -130 NEXT-TO = SHORTORDER ..  
  
I-W HEIGHT = 9.0 WIDTH = 44.0 CONS = INWALL  
AZIMUTH = 140 NEXT-TO = SHORTORDER ..  
  
E-W HEIGHT = 9.0 WIDTH = 87.0 CONS = EXWALL  
AZIMUTH = 50 ..  
  
DOOR HEIGHT = 8.0 WIDTH = 6.0 CONS = DOORCON  
MULTIPLIER = 2.0 ..  
  
ROOF HEIGHT = 87.0 WIDTH = 44.0 CONS = ROOFCON  
AZIMUTH = -40 TILT = 0 ..  
  
U-W HEIGHT = 87.0 WIDTH = 44.0 CONS = FLOOR  
AZIMUTH = -40 ..  
  
SHORTORDER =SPACE AREA = 2573.0 VOLUME = 23157.0  
AZIMUTH = -40 ZONE-TYPE = CONDITIONED  
PEOPLE-SCHEDULE = OCCUPANCY NUMBER-OF-PEOPLE = 8.0  
PEOPLE-HEAT-GAIN = 640.0 LIGHTING-TYPE = INCAND  
LIGHTING-KW = 1.5 LIGHT-TO-SPACE = 1.0  
LIGHTING-SCHEDULE = LIGHTS\_ON  
EQUIP-SCHEDULE = APPLI\_ON EQUIPMENT-KW = 30.0  
EQUIP-SENSIBLE = 0.0 SOURCE-SCHEDULE = FULL\_ON  
SOURCE-TYPE = HOT-WATER SOURCE-BTU/HR = 225799.0  
SOURCE-SENSIBLE = 0.0 INF-METHOD = AIR-CHANGE  
AIR-CHANGES/HR = 0.5 INF-SCHEDULE = FULL\_ON ..  
  
E-W HEIGHT = 9.0 WIDTH = 27.0 CONS = EXWALL  
AZIMUTH = -40 ..  
  
DOOR HEIGHT = 7.0 WIDTH = 3.0 CONS = ROOFCON  
MULTIPLIER = 2.0 ..  
  
I-W HEIGHT = 9.0 WIDTH = 40.0 CONS = INWALL  
AZIMUTH = -130 NEXT-TO = WAREWASH ..  
  
I-W HEIGHT = 9.0 WIDTH = 27.0 CONS = INWALL  
AZIMUTH = 140 NEXT-TO = DINING ..  
  
I-W HEIGHT = 9.0 WIDTH = 40.0 CONS = INWALL  
AZIMUTH = 50 NEXT-TO = FOODPREP ..  
  
ROOF HEIGHT = 40.0 WIDTH = 27.0 CONS = ROOFCON  
AZIMUTH = -40 TILT = 0 ..  
  
U-W HEIGHT = 40.0 WIDTH = 27.0 CONS = FLOOR  
AZIMUTH = -40 ..  
  
DINING =SPACE AREA = 4982.0 VOLUME = 44838.0  
AZIMUTH = -40 ZONE-TYPE = CONDITIONED  
PEOPLE-SCHEDULE = OCCUPANCY NUMBER-OF-PEOPLE = 100.0  
PEOPLE-HEAT-GAIN = 640.0 LIGHTING-TYPE = INCAND  
LIGHTING-KW = 7.0 LIGHT-TO-SPACE = 1.0  
LIGHTING-SCHEDULE = LIGHTS\_ON  
EQUIP-SCHEDULE = APPLI\_ON EQUIPMENT-KW = 1.0

```

EQUIP-SENSIBLE = 0.25 SOURCE-SENSIBLE = 0.0
INF-METHOD = AIR-CHANGE AIR-CHANGES/HR = 0.66
INF-SCHEDULE = FULL_ON ..

I-W   HEIGHT = 9.0  WIDTH = 85.0  CONS = INWALL
      AZIMUTH = -40  NEXT-TO = WAREWASH ..

E-W   HEIGHT = 9.0  WIDTH = 47.0  CONS = EXWALL
      AZIMUTH = -130 ..

E-W   HEIGHT = 9.0  WIDTH = 85.0  CONS = EXWALL
      AZIMUTH = 140 ..

WINDOW HEIGHT = 7.0  WIDTH = 4.0  G-T = GTYPE_1
      MULTIPLIER = 6.0 ..

DOOR   HEIGHT = 7.0  WIDTH = 3.0  CONS = ROOFCON ..

I-W   HEIGHT = 9.0  WIDTH = 47.0  CONS = INWALL
      AZIMUTH = 50  NEXT-TO = FOODPREP ..

ROOF   HEIGHT = 47.0  WIDTH = 85.0  CONS = ROOFCON
      AZIMUTH = -40  TILT = 0 ..

U-W   HEIGHT = 47.0  WIDTH = 85.0  CONS = FLOOR
      AZIMUTH = -40 ..

WAREWASH =SPACE  AREA = 3187.0  VOLUME = 28683.0
                  AZIMUTH = -40  ZONE-TYPE = CONDITIONED
                  PEOPLE-SCHEDULE = OCCUPANCY NUMBER-OF-PEOPLE = 5.0
                  PEOPLE-HEAT-GAIN = 640.0 LIGHTING-TYPE = INCAND
                  LIGHTING-KW = 1.5  LIGHT-TO-SPACE = 1.0
                  LIGHTING-SCHEDULE = LIGHTS_ON
                  EQUIP-SCHEDULE = APPLI ON EQUIPMENT-KW = 1.0
                  EQUIP-SENSIBLE = 0.25 SOURCE-SENSIBLE = 0.0
                  INF-METHOD = AIR-CHANGE AIR-CHANGES/HR = 0.66
                  INF-SCHEDULE = FULL_ON ..

E-W   HEIGHT = 9.0  WIDTH = 55.0  CONS = EXWALL
      AZIMUTH = -40 ..

DOOR   HEIGHT = 7.0  WIDTH = 3.0  CONS = DOORCON
      MULTIPLIER = 3.0 ..

E-W   HEIGHT = 9.0  WIDTH = 40.0  CONS = EXWALL
      AZIMUTH = -130 ..

I-W   HEIGHT = 9.0  WIDTH = 55.0  CONS = INWALL
      AZIMUTH = 140  NEXT-TO = DINING ..

I-W   HEIGHT = 9.0  WIDTH = 40.0  CONS = INWALL
      AZIMUTH = 50  NEXT-TO = SHORTORDER ..

ROOF   HEIGHT = 40.0  WIDTH = 55.0  CONS = ROOFCON
      AZIMUTH = -40  TILT = 0 ..

U-W   HEIGHT = 40.0  WIDTH = 55.0  CONS = FLOOR
      AZIMUTH = -40 ..

FOODPREP_B =SPACE  AREA = 800.0  VOLUME = 7200.0
                  AZIMUTH = -40  ZONE-TYPE = CONDITIONED
                  PEOPLE-SCHEDULE = FULL_ON NUMBER-OF-PEOPLE = 10.0
                  LIGHTING-SCHEDULE = FULL_ON EQUIP-SCHEDULE = FULL_ON
                  EQUIP-SENSIBLE = 0.25 FLOOR-WEIGHT = 0.1
                  INF-METHOD = AIR-CHANGE AIR-CHANGES/HR = 0.66
                  INF-SCHEDULE = FULL_ON ..

I-W   HEIGHT = 9.0  WIDTH = 30.0  CONS = AIR_WALL
      AZIMUTH = -40  NEXT-TO = FOODPREP ..

FDPREPHOOD =SPACE  AREA = 200.0  VOLUME = 1600.0
                  AZIMUTH = -40  TEMPERATURE = (55.)
                  ZONE-TYPE = CONDITIONED PEOPLE-SCHEDULE = FULL_ON
                  AREA/PERSON = 10.0 LIGHTING-SCHEDULE = FULL_ON
                  EQUIP-SCHEDULE = FULL_ON EQUIP-SENSIBLE = 0.25
                  FLOOR-WEIGHT = 0.1 INF-METHOD = AIR-CHANGE
                  AIR-CHANGES/HR = 0.5 INF-SCHEDULE = FULL_ON ..

I-W   HEIGHT = 1.0  WIDTH = 1.0  CONS = INWALL
      AZIMUTH = -40  NEXT-TO = FOODPREP_B ..

END ..
COMPUTE LOADS ..
INPUT SYSTEMS ..

$-----$
$ E Z - D O E   S Y S T E M S   I N P U T $
$-----$

$ GENERAL PROJECT DATA

TITLE  LINE-1 *   EMC   ENGINEERS   INC.   *
      LINE-2 *EZDOR - ELITE SOFTWARE DEVELOPMENT INC*
      LINE-3 *   DENVER,   CO   80227   *

      LINE-4 *BUILDING 10550, ENL PERS DINING   *
      LINE-5 *MODEL WITH SET BACK   * ..

ABORT   ERRORS
DIAGNOSTIC WARNINGS ..
SYSTEMS-REPORT SUMMARY=(SS-A,SS-B,SS-C) ..

$ SCHEDULES

```

```

D_FULL      =DAY-SCHEDULE (1,24) (1.) ..
AHU1D       =DAY-SCHEDULE (1,4) (0.) ..
              (5,18) (1.) ..
              (19,24) (0.) ..
AHU2D       =DAY-SCHEDULE (1,2) (1.) ..
              (3,17) (0.) ..
              (18,24) (1.) ..
D_OFF       =DAY-SCHEDULE (1,24) (0.) ..
HOODS_ON_D  =DAY-SCHEDULE (1,4) (0.) ..
              (5,18) (1.) ..
              (19,24) (0.) ..
AHU3W_CFMD  =DAY-SCHEDULE (1,4) (0.5) ..
              (5,18) (1.) ..
              (19,24) (0.5) ..
HEAT_68_D   =DAY-SCHEDULE (1,24) (68.) ..
HEAT_40_D   =DAY-SCHEDULE (1,24) (40.) ..
HEAT_55_D   =DAY-SCHEDULE (1,24) (55.) ..
AHU4W_CFMD  =DAY-SCHEDULE (1,24) (0.77) ..
AHU5W_CFMD  =DAY-SCHEDULE (1,24) (0.5) ..
AHU2W_OA_D  =DAY-SCHEDULE (1,24) (0.13) ..
85_D        =DAY-SCHEDULE (1,24) (85.) ..
FAN_WSB_D   =DAY-SCHEDULE (1,3) (0.) ..
              (4,19) (1.) ..
              (20,24) (0.) ..
HT68_WSB_D  =DAY-SCHEDULE (1,3) (50.) ..
              (4,19) (74.) ..
              (20,24) (50.) ..

W_FULL      =WEEK-SCHEDULE (ALL) D_FULL ..
AHU1_WK     =WEEK-SCHEDULE (ALL) AHU1D ..
AHU2_WK     =WEEK-SCHEDULE (ALL) AHU2D ..
W_OFF       =WEEK-SCHEDULE (ALL) D_OFF ..
AHU3W_CFMW  =WEEK-SCHEDULE (ALL) AHU3W_CFMD ..
HEAT_68_W   =WEEK-SCHEDULE (ALL) HEAT_68_D ..
HEAT_40_W   =WEEK-SCHEDULE (ALL) HEAT_40_D ..
HEAT_55_W   =WEEK-SCHEDULE (ALL) HEAT_55_D ..
AHU4W_CFMW  =WEEK-SCHEDULE (ALL) AHU4W_CFMD ..
AHU5W_CFMW  =WEEK-SCHEDULE (ALL) AHU5W_CFMD ..
AHU2W_OA_W  =WEEK-SCHEDULE (ALL) AHU2W_OA_D ..
85_W        =WEEK-SCHEDULE (ALL) 85_D ..
FAN_WSB_W   =WEEK-SCHEDULE (ALL) FAN_WSB_D ..
HT68_WSB_W  =WEEK-SCHEDULE (ALL) HT68_WSB_D ..

FULL_ON     =SCHEDULE THRU DEC 31 W_FULL ..

$ AHU1 HEAT SCHEDULE
AHU1_ONH    =SCHEDULE THRU DEC 31 AHU1_WK ..

$ AHU2 HEAT SCHED
AHU2_ONH    =SCHEDULE THRU APR 15 AHU2_WK
              THRU OCT 1 W_OFF
              THRU DEC 31 AHU2_WK ..

$ HEAT SCHEDULE
HEAT_SCED   =SCHEDULE THRU APR 15 W_FULL
              THRU OCT 1 W_OFF
              THRU DEC 31 W_FULL ..

$ SUPPLY CFM RATIO
AHU3W_CFM   =SCHEDULE THRU MAY 15 AHU3W_CFMW
              THRU OCT 1 W_FULL
              THRU DEC 31 AHU3W_CFMW ..

$ AHU2 COOL SCHED
AHU2_C      =SCHEDULE THRU DEC 31 AHU2_WK ..

HEAT_68     =SCHEDULE THRU DEC 31 HEAT_68_W ..
HEAT_40     =SCHEDULE THRU DEC 31 HEAT_40_W ..
HEAT_55     =SCHEDULE THRU DEC 31 HEAT_55_W ..

$ CFM RATIO
AHU4_CFM    =SCHEDULE THRU MAY 15 AHU4W_CFMW
              THRU OCT 1 W_FULL
              THRU DEC 31 AHU4W_CFMW ..

$ AHU2 & AHU5 CFM RATIOS
AHU2&5_CFM  =SCHEDULE THRU MAY 15 AHU5W_CFMW
              THRU OCT 1 W_FULL
              THRU DEC 31 AHU5W_CFMW ..

$ AHU2 OA SCHEDULE
AHU2_OA     =SCHEDULE THRU MAY 15 AHU2W_OA_W
              THRU OCT 1 W_FULL
              THRU DEC 31 AHU2W_OA_W ..

$ VENTILATION SCHED
COOL_ON     =SCHEDULE THRU MAY 15 W_OFF
              THRU OCT 1 W_FULL
              THRU DEC 31 W_OFF ..

COOL_TEMP   =SCHEDULE THRU DEC 31 85_W ..

```

FULL\_OFF =SCHEDULE THRU DEC 31 W\_OFF ..  
FAN\_W\_SB =SCHEDULE THRU DEC 31 FAN\_WSB\_W ..  
HT\_68\_W\_SB =SCHEDULE THRU DEC 31 HT68\_WSB\_W ..

\$ ZONE DESCRIPTION

FOODPREP =ZONE DESIGN-HEAT-T = 68.0 DESIGN-COOL-T = 80.0  
HEAT-TEMP-SCH = HT\_68\_W\_SB ZONE-TYPE = CONDITIONED  
THERMOSTAT-TYPE = PROPORTIONAL  
BASEBOARD-CTRL = THERMOSTATIC  
BASEBOARD-RATING = -39050. ASSIGNED-CFM = 5265.  
OUTSIDE-AIR-CFM = 1333. SIZING-OPTION = FROM-LOADS  
MIN-CFM-RATIO = 1.0 EXHAUST-CFM = 1333.0  
EXHAUST-STATIC = 0.9 ..

SHORTORDER =ZONE DESIGN-HEAT-T = 68.0 DESIGN-COOL-T = 80.0  
HEAT-TEMP-SCH = HT\_68\_W\_SB ZONE-TYPE = CONDITIONED  
THERMOSTAT-TYPE = PROPORTIONAL  
BASEBOARD-CTRL = THERMOSTATIC  
BASEBOARD-RATING = -5500. ASSIGNED-CFM = 4670.  
OUTSIDE-AIR-CFM = 4670. SIZING-OPTION = FROM-LOADS  
MIN-CFM-RATIO = 1.0 MIN-CFM-SCH = AHU3W\_CFM  
EXHAUST-CFM = 4670.0 EXHAUST-STATIC = 0.9 ..

DINING =ZONE DESIGN-HEAT-T = 68.0 DESIGN-COOL-T = 80.0  
HEAT-TEMP-SCH = HT\_68\_W\_SB ZONE-TYPE = CONDITIONED  
THERMOSTAT-TYPE = PROPORTIONAL ASSIGNED-CFM = 7430.  
OUTSIDE-AIR-CFM = 360. SIZING-OPTION = FROM-LOADS  
MIN-CFM-RATIO = 1.0 MIN-CFM-SCH = AHU3W\_CFM  
EXHAUST-CFM = 360.0 EXHAUST-STATIC = 0.9 ..

WAREWASH =ZONE DESIGN-HEAT-T = 68.0 DESIGN-COOL-T = 80.0  
HEAT-TEMP-SCH = HT\_68\_W\_SB ZONE-TYPE = CONDITIONED  
THERMOSTAT-TYPE = PROPORTIONAL  
BASEBOARD-CTRL = THERMOSTATIC  
BASEBOARD-RATING = -8100. ASSIGNED-CFM = 3145.  
OUTSIDE-AIR-CFM = 3145. SIZING-OPTION = FROM-LOADS  
MIN-CFM-RATIO = 1.0 MIN-CFM-SCH = AHU2&5\_CFM  
EXHAUST-CFM = 3145.0 EXHAUST-STATIC = 0.9 ..

FOODPREP\_B =ZONE DESIGN-HEAT-T = 68.0 DESIGN-COOL-T = 85.0  
HEAT-TEMP-SCH = HT\_68\_W\_SB ZONE-TYPE = CONDITIONED  
THERMOSTAT-TYPE = PROPORTIONAL  
BASEBOARD-CTRL = THERMOSTATIC ASSIGNED-CFM = 1600.  
OUTSIDE-AIR-CFM = 1600. SIZING-OPTION = FROM-LOADS  
MIN-CFM-RATIO = 1.0 EXHAUST-CFM = 1600.0  
EXHAUST-STATIC = 0.9 HEATING-CAPACITY = -48384.0 ..

FDPREPHOOD =ZONE DESIGN-HEAT-T = 40.0 DESIGN-COOL-T = 85.0  
HEAT-TEMP-SCH = HEAT\_40 ZONE-TYPE = CONDITIONED  
THERMOSTAT-TYPE = PROPORTIONAL ASSIGNED-CFM = 6400.  
OUTSIDE-AIR-CFM = 6400. SIZING-OPTION = FROM-LOADS  
MIN-CFM-RATIO = 1.0 EXHAUST-CFM = 6400.0  
EXHAUST-STATIC = 2.0 ..

\$ SYSTEM DESCRIPTION

AHU\_3 =SYSTEM SYSTEM-TYPE = SZRH  
MAX-SUPPLY-T = 120.0 MIN-SUPPLY-T = 57.0  
COOLING-SCHEDULE = FULL OFF HEAT-SET-T = 120.0  
PREHEAT-T = 41.2 MAX-HUMIDITY = 55.0  
MIN-HUMIDITY = 35.0 ECONO-LIMIT-T = 65.0  
ECONO-LOW-LIMIT = 55.0 SUPPLY-CFM = 4670.  
RATED-CFM = 4670. MIN-OUTSIDE-AIR = 1.0  
FAN-SCHEDULE = FAN\_W\_SB SUPPLY-DELTA-T = 2.4  
SUPPLY-KW = 0.0002  
MOTOR-PLACEMENT = OUTSIDE-AIRFLOW  
NIGHT-CYCLE-CTRL = CYCLE-ON-ANY  
RETURN-STATIC = 0.53 RETURN-EFF = 0.97  
NIGHT-VENT-DT = 0.0 MIN-CFM-RATIO = 1.0  
HEATING-CAPACITY = -39650. FURNACE-AUX = 0.  
FURNACE-HIR = 1.0 PREHEAT-SOURCE = HOT-WATER  
RETURN-AIR-PATH = DUCT  
ZONE-NAMES = (SHORTORDER) ..

AHU\_4 =SYSTEM SYSTEM-TYPE = SZRH  
MAX-SUPPLY-T = 120.0 MIN-SUPPLY-T = 57.0  
COOLING-SCHEDULE = FULL OFF HEAT-SET-T = 100.0  
PREHEAT-T = 41.2 MAX-HUMIDITY = 65.0  
MIN-HUMIDITY = 35.0 ECONO-LIMIT-T = 65.0  
ECONO-LOW-LIMIT = 55.0 SUPPLY-CFM = 7430.  
RETURN-CFM = 7070. RATED-CFM = 7430.  
MIN-OUTSIDE-AIR = 0.05 FAN-SCHEDULE = FAN\_W\_SB  
SUPPLY-DELTA-T = 2.4 SUPPLY-KW = 0.00025  
MOTOR-PLACEMENT = OUTSIDE-AIRFLOW  
NIGHT-CYCLE-CTRL = CYCLE-ON-ANY  
RETURN-STATIC = 0.95 RETURN-EFF = 0.97  
NIGHT-VENT-DT = 0.0 MIN-CFM-RATIO = 1.0  
HEATING-CAPACITY = -256775. FURNACE-AUX = 0.  
FURNACE-HIR = 1.0 PREHEAT-SOURCE = HOT-WATER  
RETURN-AIR-PATH = DUCT  
ZONE-NAMES = (DINING) ..

AHU\_1 =SYSTEM SYSTEM-TYPE = SZRH  
MAX-SUPPLY-T = 120.0 MIN-SUPPLY-T = 45.0  
COOLING-SCHEDULE = FULL OFF HEAT-SET-T = 120.0  
PREHEAT-T = 40.0 MAX-HUMIDITY = 55.0  
MIN-HUMIDITY = 35.0 ECONO-LIMIT-T = 65.0  
ECONO-LOW-LIMIT = 55.0 SUPPLY-CFM = 1600.  
RATED-CFM = 1600. MIN-OUTSIDE-AIR = 1.0  
FAN-SCHEDULE = FAN\_W\_SB SUPPLY-DELTA-T = 2.4  
SUPPLY-KW = 0.00065  
MOTOR-PLACEMENT = OUTSIDE-AIRFLOW



```

NIGHT-CYCLE-CTRL = CYCLE-ON-ANY NIGHT-VENT-DT = 0.0
MIN-CFM-RATIO = 1.0 REHEAT-DELTA-T = 32.
COOL-FT-MIN = 0. HEATING-CAPACITY = -81216.
FURNACE-AUX = 0. FURNACE-HIR = 1.0
PREHEAT-SOURCE = HOT-WATER RETURN-AIR-PATH = DUCT
ZONE-NAMES = (FOODPREP_B) ..

AHU_5      =SYSTEM  SYSTEM-TYPE = SZRH
MAX-SUPPLY-T = 120.0 MIN-SUPPLY-T = 57.0
COOLING-SCHEDULE = FULL OFF HEAT-SET-T = 100.0
PREHEAT-T = 41.2 MAX-HUMIDITY = 65.0
MIN-HUMIDITY = 35.0 ECONO-LIMIT-T = 65.0
ECONO-LOW-LIMIT = 55.0 SUPPLY-CFM = 3145.
RATED-CFM = 3145. MIN-OUTSIDE-AIR = 1.0
FAN-SCHEDULE = FAN_W_SB SUPPLY-DELTA-T = 2.4
SUPPLY-KW = 0.00053
MOTOR-PLACEMENT = OUTSIDE-AIRFLOW
NIGHT-CYCLE-CTRL = CYCLE-ON-ANY
RETURN-STATIC = 1.38 RETURN-EFF = 0.97
NIGHT-VENT-DT = 0.0 MIN-CFM-RATIO = 1.0
HEATING-CAPACITY = -263764. FURNACE-AUX = 0.
FURNACE-HIR = 1.0 PREHEAT-SOURCE = HOT-WATER
RETURN-AIR-PATH = DUCT
ZONE-NAMES = (WAREWASH) ..

AHU_2      =SYSTEM  SYSTEM-TYPE = SZRH
MAX-SUPPLY-T = 120.0 MIN-SUPPLY-T = 57.0
COOLING-SCHEDULE = FULL OFF HEAT-SET-T = 120.0
PREHEAT-T = 41.2 MAX-HUMIDITY = 55.0
MIN-HUMIDITY = 35.0 ECONO-LIMIT-T = 65.0
ECONO-LOW-LIMIT = 55.0 SUPPLY-CFM = 5265.
RETURN-CFM = 3932. RATED-CFM = 5265.
MIN-OUTSIDE-AIR = 0.25 FAN-SCHEDULE = FAN_W_SB
SUPPLY-DELTA-T = 2.4 SUPPLY-KW = 0.00021
MOTOR-PLACEMENT = OUTSIDE-AIRFLOW
NIGHT-CYCLE-CTRL = CYCLE-ON-ANY NIGHT-VENT-DT = 0.0
MIN-CFM-RATIO = 1.0 COOL-FT-MIN = 0.
HEATING-CAPACITY = -150857. FURNACE-AUX = 0.
FURNACE-HIR = 1.0 PREHEAT-SOURCE = HOT-WATER
RETURN-AIR-PATH = DUCT
ZONE-NAMES = (FOODPREP) ..

AHU_1B     =SYSTEM  SYSTEM-TYPE = SZRH
MAX-SUPPLY-T = 120.0 MIN-SUPPLY-T = 45.0
PREHEAT-T = 40.0 MIN-HUMIDITY = 30.0
ECONO-LIMIT-T = 65.0 ECONO-LOW-LIMIT = 55.0
SUPPLY-CFM = 6400. RATED-CFM = 6400.
MIN-OUTSIDE-AIR = 1.0 FAN-SCHEDULE = FAN_W_SB
SUPPLY-DELTA-T = 2.4 SUPPLY-KW = 0.00065
NIGHT-CYCLE-CTRL = STAY-OFF NIGHT-VENT-DT = 0.0
MIN-CFM-RATIO = 1.0 HEATING-CAPACITY = -324864.
FURNACE-AUX = 0. PREHEAT-SOURCE = HOT-WATER
ZONE-NAMES = (FDPREPHOOD) ..

```

#### \$ HOURLY REPORT DESCRIPTION

```

SYST1      =REPORT-BLOCK VARIABLE-TYPE = FOODPREP
VARIABLE-LIST = (6) ..
SYST2      =REPORT-BLOCK VARIABLE-TYPE = SHORTORDER
VARIABLE-LIST = (6) ..
SYST3      =REPORT-BLOCK VARIABLE-TYPE = DINING
VARIABLE-LIST = (6) ..
SYST4      =REPORT-BLOCK VARIABLE-TYPE = WAREWASH
VARIABLE-LIST = (6) ..
SYST5      =REPORT-BLOCK VARIABLE-TYPE = FOODPREP_B
VARIABLE-LIST = (6) ..
REP1       = HOURLY-REPORT REPORT-SCHEDULE = FULL ON
REPORT-BLOCK = (SYST1,SYST2,SYST3,SYST4,SYST5)

```

```

END ..
COMPUTE SYSTEMS ..
INPUT PLANT ..

```

```

$-----$
$ E Z - D O E P L A N T S I N P U T $
$-----$

```

#### \$ GENERAL PROJECT DATA

```

TITLE LINE-1 * EMC ENGINEERS INC. *
LINE-2 *EZDOE - ELITE SOFTWARE DEVELOPMENT INC*
LINE-3 * DENVER, CO 80227 *
LINE-4 *BUILDING 10550, ENL PERS DINING *
LINE-5 *MODEL WITH SET BACK * ..

```

```

ABORT      ERRORS ..
DIAGNOSTIC WARNINGS ..
PLANT-REPORT VERIFICATION=(PV-A)
SUMMARY=(PS-A,PS-B,PS-D,PS-H,PS-I,BEPS) ..

```

#### \$ SCHEDULES

```

DAY_ON     =DAY-SCHEDULE (1,7) (0.)
(8,18) (1.)
(19,24) (0.) ..

```

```

FULL_ON    =WEEK-SCHEDULE (ALL) DAY_ON ..

```

```

$ heating plant schedule
heating    =SCHEDULE THRU DEC 31 FULL_ON ..

```

\$ EQUIPMENT DESCRIPTION

HEAT-EXGR =PLANT-EQUIPMENT TYPE = HTANK-STORAGE  
SIZE = 1.5 ..

PLANT-PARAMETERS BOILER-FUEL = NATURAL-GAS MAKEUP-WTR-T = 50.  
STM-BOILER-HIR = 0.76 HW-BOILER-HIR = 1.27  
CHILLER-CONTROL = STANDBY OPEN-REC-COND-TYPE = AIR  
HERM-REC-COND-TYPE = AIR COMP-TO-TWR-WTR = 2.77  
CCIRC-HEAD = 100.0 HCIRC-HEAD = 50.0 ..

PART-LOAD-RATIO TYPE = HW-BOILER  
MIN-RATIO = 0.2500 MAX-RATIO = 1.0000  
OPERATING-RATIO = 1.0000 ELEC-INPUT-RATIO = 0.0220 ..

ENERGY-RESOURCE RESOURCE = ELECTRICITY ..  
ENERGY-RESOURCE RESOURCE = STEAM SOURCE-SITE-EFF = 1.000 ..

ENERGY-STORAGE HEAT-STORE-RATE = 1.51 HEAT-SUPPLY-RATE = 1.51  
HTANK-BASE-T = 144.0 HTANK-T-RANGE = 15.6  
HEAT-STORE-SCH = heating ..

HEAT-RECOVERY  
SUPPLY-1 = (HTANK-STORAGE)  
DEMAND-1 = (SPACE-HEAT, PROCESS-HEAT) ..

END ..  
COMPUTE PLANT ..  
STOP ..

ENERGY TYPE IN SITE MBTU-	STEAM	ELECTRICITY	NATURAL-GAS
CATEGORY OF USE			
SPACE HEAT	3,110.45	0.00	0.00
SPACE COOL	0.00	0.00	0.00
HVAC AUX	0.00	334.94	0.00
DOM HOT WTR	1,977.94	0.00	0.00
AUX SOLAR	0.00	0.00	0.00
LIGHTS	0.00	165.18	0.00
VERT TRANS	0.00	0.00	0.00
MISC EQUIP	0.00	798.26	1,042.82
	-----	-----	-----
TOTAL	5,088.39	1,298.38	1,042.82

TOTAL SITE ENERGY 7429.73 MBTU 477.5 KBTU/SQFT-YR GROSS-AREA 503.5 KBTU/SQFT-YR NET-AREA  
 TOTAL SOURCE ENERGY 10030.41 MBTU 644.6 KBTU/SQFT-YR GROSS-AREA 679.7 KBTU/SQFT-YR NET-AREA

PERCENT OF HOURS ANY SYSTEM ZONE OUTSIDE OF THROTTLING RANGE = 3.6  
 PERCENT OF HOURS ANY PLANT LOAD NOT SATISFIED = 0.0

NOTE ELECTRICITY AND/OR FUEL USED TO GENERATE ELECTRICITY IS APPORTIONED BASED  
 ON THE YEARLY DEMAND. ALL OTHER ENERGY TYPES ARE APPORTIONED HOURLY.

EMC ENGINEERS INC. EZDOE - ELITE SOFTWARE DEVELOPMENT INC DOE-2.1D 3/27/1995 12:22:24 PDL RUN 1  
 DENVER, CO 80227 BUILDING 10550, ENL PERS DINING MODEL WITH SET BACK  
 REPORT- PS-B MONTHLY PEAK AND TOTAL ENERGY USE WEATHER FILE- MASSENA, NY

MO	UTILITY-	STEAM	ELECTRICITY	NATURAL-GAS
	TOTAL (MBTU)	773.834	110.641	88.576
JAN	PEAK (KBTU)	2226.455	336.592	119.053
	DY/HR	26/ 7	31/16	31/24
	TOTAL (MBTU)	616.842	99.934	80.004
FEB	PEAK (KBTU)	1872.904	336.592	119.053
	DY/HR	5/ 5	28/16	28/24
	TOTAL (MBTU)	616.792	110.641	88.576
MAR	PEAK (KBTU)	1998.496	336.592	119.053
	DY/HR	9/ 5	31/16	31/24
	TOTAL (MBTU)	408.659	107.072	85.718
APR	PEAK (KBTU)	1448.688	336.592	119.053
	DY/HR	3/ 4	30/16	30/ 1
	TOTAL (MBTU)	314.293	110.451	88.576
MAY	PEAK (KBTU)	1102.113	336.592	119.053
	DY/HR	17/ 4	29/16	31/ 1
	TOTAL (MBTU)	215.597	106.268	85.718
JUN	PEAK (KBTU)	754.439	336.592	119.053
	DY/HR	8/ 5	29/16	30/ 1
	TOTAL (MBTU)	193.460	109.076	88.576
JUL	PEAK (KBTU)	669.872	336.592	119.053
	DY/HR	25/ 4	31/16	31/ 1
	TOTAL (MBTU)	209.053	109.573	88.576
AUG	PEAK (KBTU)	671.663	336.592	119.053
	DY/HR	22/ 4	31/16	31/ 1
	TOTAL (MBTU)	253.828	106.409	85.718
SEP	PEAK (KBTU)	1049.194	336.592	119.053
	DY/HR	24/ 4	29/16	30/ 1
	TOTAL (MBTU)	355.839	110.611	88.576
OCT	PEAK (KBTU)	1187.006	336.592	119.053
	DY/HR	21/ 6	31/16	31/24
	TOTAL (MBTU)	474.850	107.072	85.718
NOV	PEAK (KBTU)	1592.215	336.592	119.053
	DY/HR	28/ 4	30/16	30/24
	TOTAL (MBTU)	655.383	110.641	88.576
DEC	PEAK (KBTU)	1932.618	336.592	119.053
	DY/HR	31/ 4	31/16	31/24
	ONE YEAR	5088.431	1298.390	1042.905
	USE/PEAK	2226.455	336.592	119.053

**COMPUTER SIMULATIONS**  
BUILDING 10550

RUN 3 - DDC

LDL PROCESSOR INPUT DATA

3/18/1995 18: 4:29 LDL RUN 1

```

* 3 *
* 4 *
* 5 *
* 6 *
* 7 *
* 8 *
* 9 *
* 10 *
* 11 * TITLE LINE-1 * EMC ENGINEERS INC. *
* 12 * LINE-2 *EZDOR - ELITE SOFTWARE DEVELOPMENT INC*
* 13 * LINE-3 * DENVER, CO 80227 *
* 14 *
* 15 * LINE-4 *BUILDING 10550, ENL PERS DINING *
* 16 * LINE-5 *MODEL WITH SET BACK AND DDC * ..
* 17 *
* 18 * ABORT ERRORS ..
* 19 * DIAGNOSTIC WARNINGS ..
* 20 * LOADS-REPORT VERIFICATION=(LV-A, LV-B, LV-C)
* 21 * SUMMARY=(LS-A, LS-B, LS-C, LS-D, LS-E, LS-F, LS-K) ..
* 22 * BUILDING-LOCATION LATITUDE = 44.0
* 23 * ALTITUDE = 655.
* 24 * AZIMUTH = -40.
* 25 * TIME-ZONE = 5
* 26 * GROSS-AREA = 15560
* 27 * HOLIDAY = NO
* 28 * SHIELDING-COEF = 0.29
* 29 * X-REF = 0.0
* 30 * Y-REF = 0.0 ..
* 31 * RUN-PERIOD JAN 1 1994 THRU DEC 31 1994 ..
* 32 *
* 33 *
* 34 *
* 35 *
* 36 * LIGHTS =DAY-SCHEDULE (1,2) (1.)
* 37 * (3,11) (0.5)
* 38 * (12,13) (0.6)
* 39 * (14,24) (1.) ..
* 40 *
* 41 * OCCUP =DAY-SCHEDULE (1,5) (0.)
* 42 * (6,8) (0.1,0.4,0.7)
* 43 * (9,10) (0.1)
* 44 * (11,12) (0.4,0.8)
* 45 * (13,15) (0.1)
* 46 * (16,17) (0.3,0.9)
* 47 * (18) (0.1)
* 48 * (19,24) (0.) ..
* 49 *
* 50 * APPLIANCE =DAY-SCHEDULE (1) (0.)
* 51 * (2,3) (0.7)
* 52 * (4,12) (0.02)
* 53 * (13,15) (0.6)
* 54 * (16,18) (0.02)
* 55 * (19,20) (0.7)
* 56 * (21,24) (0.8) ..
* 57 *
* 58 * FULL_ON_D =DAY-SCHEDULE (1,24) (1.) ..
* 59 *
* 60 * FULL_OFFD =DAY-SCHEDULE (1,24) (0.) ..
* 61 *
* 62 * appliance =DAY-SCHEDULE (1,3) (0.)
* 63 * (4) (0.1)
* 64 * (5,6) (0.4)
* 65 * (7,11) (0.6,0.7,0.3,0.4,0.6)
* 66 * (12,16) (0.7,0.6,0.4,0.6,0.8)
* 67 * (17,18) (0.5,0.1)
* 68 * (19,24) (0.) ..
* 69 *
* 70 * lights =DAY-SCHEDULE (1,3) (0.)
* 71 * (4,6) (0.2,0.4,0.5)
* 72 * (7,16) (0.8)
* 73 * (17,18) (0.7,0.4)
* 74 * (19,24) (0.) ..
* 75 *
* 76 *
* 77 * PEOPLE =WEEK-SCHEDULE (ALL) OCCUP ..
* 78 *
* 79 * LIGHTS_WK =WEEK-SCHEDULE (ALL) lights ..
* 80 *
* 81 * APPLI_WK =WEEK-SCHEDULE (ALL) appliance ..
* 82 *
* 83 * FULL_ON_W =WEEK-SCHEDULE (ALL) FULL_ON_D ..
* 84 *
* 85 * FULL_OFFW =WEEK-SCHEDULE (ALL) FULL_OFFD ..
* 86 *
* 87 *
* 88 * $ FULL_ON SCHEDULE
* 89 * FULL_ON =SCHEDULE THRU DEC 31 FULL_ON_W ..
* 90 *
* 91 * $ LOADS OCCUPANCY SCHED
* 92 * OCCUPANCY =SCHEDULE THRU DEC 31 PEOPLE ..
* 93 *
* 94 * $ LIGHTING SCHEDULE
* 95 * LIGHTS_ON =SCHEDULE THRU DEC 31 LIGHTS_WK ..
* 96 *
* 97 * $ APPLIANCE SCHEDULE
* 98 * APPLI_ON =SCHEDULE THRU DEC 31 APPLI_WK ..
* 99 *
* 100 * $ COND VENTIL SCHED
* 101 * CND_SCHED =SCHEDULE THRU MAR 1 FULL_OFFW
* 102 * THRU NOV 30 FULL_ON_W

```

```

* 103 *          THRU DEC 31 FULL_OFFW ..
* 104 *
* 105 *
* 106 *
* 107 *          $ CONSTRUCTION TYPES
* 108 *
* 109 *
* 110 *
* 111 *
* 112 *          $ DOOR CONSTRUCTION
* 113 * DOORCON =CONSTRUCTION U-VALUE = 0.400 ..
* 114 * FLOOR   =CONSTRUCTION U-VALUE = 0.100
* 115 *                               ABSORPTANCE = 1.000
* 116 *                               ROUGHNESS = 1 ..
* 117 * ROOFCON =CONSTRUCTION U-VALUE = 0.050 ..
* 118 * EXWALL  =CONSTRUCTION U-VALUE = 0.200
* 119 *                               ABSORPTANCE = 0.750 ..
* 120 * INWALL  =CONSTRUCTION U-VALUE = 0.500 ..
* 121 *
* 122 *          $ APPRX OF AIR FLOW BETWEEN SPACES
* 123 * AIR_WALL =CONSTRUCTION U-VALUE = 20.000 ..
* 124 *
* 125 * GTYPE_1 =GLASS-TYPE SHADING-COEFF = 0.400
* 126 *                               PANES = 1
* 127 *                               GLASS-CONDUCTANCE = 1.130 ..
* 128 * GTYPE_2 =GLASS-TYPE SHADING-COEFF = 0.300
* 129 *                               PANES = 1
* 130 *                               GLASS-CONDUCTANCE = 0.790 ..
* 131 * GTYPE_3 =GLASS-TYPE SHADING-COEFF = 0.400
* 132 *                               PANES = 1
* 133 *                               GLASS-CONDUCTANCE = 0.360 ..
* 134 *
* 135 *
* 136 *
* 137 *
* 138 *          $ SPACE DESCRIPTION
* 139 *
* 140 * FOODPREP =SPACE AREA = 3015.0 VOLUME = 27135.0
* 141 * AZIMUTH = -40 ZONE-TYPE = CONDITIONED
* 142 * PEOPLE-SCHEDULE = OCCUPANCY NUMBER-OF-PEOPLE = 15.0
* 143 * PEOPLE-HEAT-GAIN = 640.0
* 144 * LIGHTING-TYPE = REC-FLUOR-RV LIGHTING-KW = 3.0
* 145 * LIGHT-TO-SPACE = 1.0 LIGHTING-SCHEDULE = LIGHTS_ON
* 146 * EQUIP-SCHEDULE = APPLI_ON EQUIPMENT-KW = 57.0
* 147 * EQUIP-SENSIBLE = 0.0 SOURCE-SCHEDULE = FULL_ON
* 148 * SOURCE-TYPE = GAS SOURCE-BTU/HR = 119053.0
* 149 * SOURCE-SENSIBLE = 0.0 INF-METHOD = AIR-CHANGE
* 150 * AIR-CHANGES/HR = 0.33 INF-SCHEDULE = FULL_ON ..
* 151 *
* 152 * E-W HEIGHT = 9.0 WIDTH = 44.0 CONS = EXWALL
* 153 * AZIMUTH = -40 ..
* 154 *
* 155 * I-W HEIGHT = 9.0 WIDTH = 87.0 CONS = INWALL
* 156 * AZIMUTH = -130 NEXT-TO = SHORTORDER ..
* 157 *
* 158 * I-W HEIGHT = 9.0 WIDTH = 44.0 CONS = INWALL
* 159 * AZIMUTH = 140 NEXT-TO = SHORTORDER ..
* 160 *
* 161 * E-W HEIGHT = 9.0 WIDTH = 87.0 CONS = EXWALL
* 162 * AZIMUTH = 50 ..
* 163 *
* 164 * DOOR HEIGHT = 8.0 WIDTH = 6.0 CONS = DOORCON
* 165 * MULTIPLIER = 2.0 ..
* 166 *
* 167 * ROOF HEIGHT = 87.0 WIDTH = 44.0 CONS = ROOFCON
* 168 * AZIMUTH = -40 TILT = 0 ..
* 169 *
* 170 * U-W HEIGHT = 87.0 WIDTH = 44.0 CONS = FLOOR
* 171 * AZIMUTH = -40 ..
* 172 *
* 173 *
* 174 * SHORTORDER =SPACE AREA = 2573.0 VOLUME = 23157.0
* 175 * AZIMUTH = -40 ZONE-TYPE = CONDITIONED
* 176 * PEOPLE-SCHEDULE = OCCUPANCY NUMBER-OF-PEOPLE = 8.0
* 177 * PEOPLE-HEAT-GAIN = 640.0 LIGHTING-TYPE = INCAND
* 178 * LIGHTING-KW = 1.5 LIGHT-TO-SPACE = 1.0
* 179 * LIGHTING-SCHEDULE = LIGHTS_ON
* 180 * EQUIP-SCHEDULE = APPLI_ON EQUIPMENT-KW = 30.0
* 181 * EQUIP-SENSIBLE = 0.0 SOURCE-SCHEDULE = FULL_ON
* 182 * SOURCE-TYPE = HOT-WATER SOURCE-BTU/HR = 225799.0
* 183 * SOURCE-SENSIBLE = 0.0 INF-METHOD = AIR-CHANGE
* 184 * AIR-CHANGES/HR = 0.5 INF-SCHEDULE = FULL_ON ..
* 185 *
* 186 * E-W HEIGHT = 9.0 WIDTH = 27.0 CONS = EXWALL
* 187 * AZIMUTH = -40 ..
* 188 *
* 189 * DOOR HEIGHT = 7.0 WIDTH = 3.0 CONS = ROOFCON
* 190 * MULTIPLIER = 2.0 ..
* 191 *
* 192 * I-W HEIGHT = 9.0 WIDTH = 40.0 CONS = INWALL
* 193 * AZIMUTH = -130 NEXT-TO = WAREWASH ..
* 194 *
* 195 * I-W HEIGHT = 9.0 WIDTH = 27.0 CONS = INWALL
* 196 * AZIMUTH = 140 NEXT-TO = DINING ..
* 197 *
* 198 * I-W HEIGHT = 9.0 WIDTH = 40.0 CONS = INWALL
* 199 * AZIMUTH = 50 NEXT-TO = FOODPREP ..
* 200 *
* 201 * ROOF HEIGHT = 40.0 WIDTH = 27.0 CONS = ROOFCON
* 202 * AZIMUTH = -40 TILT = 0 ..
* 203 *
* 204 * U-W HEIGHT = 40.0 WIDTH = 27.0 CONS = FLOOR
* 205 * AZIMUTH = -40 ..
* 206 *
* 207 *
* 208 * DINING =SPACE AREA = 4982.0 VOLUME = 44838.0
* 209 * AZIMUTH = -40 ZONE-TYPE = CONDITIONED
* 210 * PEOPLE-SCHEDULE = OCCUPANCY NUMBER-OF-PEOPLE = 100.0

```

```

* 211 *      PEOPLE-HEAT-GAIN = 640.0  LIGHTING-TYPE = INCAND
* 212 *      LIGHTING-KW = 7.0  LIGHT-TO-SPACE = 1.0
* 213 *      LIGHTING-SCHEDULE = LIGHTS_ON
* 214 *      EQUIP-SCHEDULE = APPLI_ON  EQUIPMENT-KW = 1.0
* 215 *      EQUIP-SENSIBLE = 0.25  SOURCE-SENSIBLE = 0.0
* 216 *      INF-METHOD = AIR-CHANGE  AIR-CHANGES/HR = 0.66
* 217 *      INF-SCHEDULE = FULL_ON  ..
* 218 *
* 219 *      I-W      HEIGHT = 9.0  WIDTH = 85.0  CONS = INWALL
* 220 *      AZIMUTH = -40  NEXT-TO = WAREWASH  ..
* 221 *
* 222 *      E-W      HEIGHT = 9.0  WIDTH = 47.0  CONS = EXWALL
* 223 *      AZIMUTH = -130  ..
* 224 *
* 225 *      E-W      HEIGHT = 9.0  WIDTH = 85.0  CONS = EXWALL
* 226 *      AZIMUTH = 140  ..
* 227 *
* 228 *      WINDOW HEIGHT = 7.0  WIDTH = 4.0  G-T = GTYPE_1
* 229 *      MULTIPLIER = 6.0  ..
* 230 *
* 231 *      DOOR      HEIGHT = 7.0  WIDTH = 3.0  CONS = ROOFCON ..
* 232 *
* 233 *      I-W      HEIGHT = 9.0  WIDTH = 47.0  CONS = INWALL
* 234 *      AZIMUTH = 50  NEXT-TO = FOODPREP  ..
* 235 *
* 236 *      ROOF      HEIGHT = 47.0  WIDTH = 85.0  CONS = ROOFCON
* 237 *      AZIMUTH = -40  TILT = 0  ..
* 238 *
* 239 *      U-W      HEIGHT = 47.0  WIDTH = 85.0  CONS = FLOOR
* 240 *      AZIMUTH = -40  ..
* 241 *
* 242 *
* 243 *      WAREWASH =SPACE  AREA = 3187.0  VOLUME = 28683.0
* 244 *      AZIMUTH = -40  ZONE-TYPE = CONDITIONED
* 245 *      PEOPLE-SCHEDULE = OCCUPANCY  NUMBER-OF-PEOPLE = 5.0
* 246 *      PEOPLE-HEAT-GAIN = 640.0  LIGHTING-TYPE = INCAND
* 247 *      LIGHTING-KW = 1.5  LIGHT-TO-SPACE = 1.0
* 248 *      LIGHTING-SCHEDULE = LIGHTS_ON
* 249 *      EQUIP-SCHEDULE = APPLI_ON  EQUIPMENT-KW = 1.0
* 250 *      EQUIP-SENSIBLE = 0.25  SOURCE-SENSIBLE = 0.0
* 251 *      INF-METHOD = AIR-CHANGE  AIR-CHANGES/HR = 0.66
* 252 *      INF-SCHEDULE = FULL_ON  ..
* 253 *
* 254 *      E-W      HEIGHT = 9.0  WIDTH = 55.0  CONS = EXWALL
* 255 *      AZIMUTH = -40  ..
* 256 *
* 257 *      DOOR      HEIGHT = 7.0  WIDTH = 3.0  CONS = DOORCON
* 258 *      MULTIPLIER = 3.0  ..
* 259 *
* 260 *      E-W      HEIGHT = 9.0  WIDTH = 40.0  CONS = EXWALL
* 261 *      AZIMUTH = -130  ..
* 262 *
* 263 *      I-W      HEIGHT = 9.0  WIDTH = 55.0  CONS = INWALL
* 264 *      AZIMUTH = 140  NEXT-TO = DINING  ..
* 265 *
* 266 *      I-W      HEIGHT = 9.0  WIDTH = 40.0  CONS = INWALL
* 267 *      AZIMUTH = 50  NEXT-TO = SHORTORDER  ..
* 268 *
* 269 *      ROOF      HEIGHT = 40.0  WIDTH = 55.0  CONS = ROOFCON
* 270 *      AZIMUTH = -40  TILT = 0  ..
* 271 *
* 272 *      U-W      HEIGHT = 40.0  WIDTH = 55.0  CONS = FLOOR
* 273 *      AZIMUTH = -40  ..
* 274 *
* 275 *
* 276 *      FOODPREP_B =SPACE  AREA = 800.0  VOLUME = 7200.0
* 277 *      AZIMUTH = -40  ZONE-TYPE = CONDITIONED
* 278 *      PEOPLE-SCHEDULE = FULL_ON  NUMBER-OF-PEOPLE = 10.0
* 279 *      LIGHTING-SCHEDULE = FULL_ON  EQUIP-SCHEDULE = FULL_ON
* 280 *      EQUIP-SENSIBLE = 0.25  FLOOR-WEIGHT = 0.1
* 281 *      INF-METHOD = AIR-CHANGE  AIR-CHANGES/HR = 0.66
* 282 *      INF-SCHEDULE = FULL_ON  ..
* 283 *
* 284 *      I-W      HEIGHT = 9.0  WIDTH = 30.0  CONS = AIR_WALL
* 285 *      AZIMUTH = -40  NEXT-TO = FOODPREP  ..
* 286 *
* 287 *
* 288 *      FDPREPHOOD =SPACE  AREA = 200.0  VOLUME = 1600.0
* 289 *      AZIMUTH = -40  TEMPERATURE = (55.)
* 290 *      ZONE-TYPE = CONDITIONED  PEOPLE-SCHEDULE = FULL_ON
* 291 *      AREA/PERSON = 10.0  LIGHTING-SCHEDULE = FULL_ON
* 292 *      EQUIP-SCHEDULE = FULL_ON  EQUIP-SENSIBLE = 0.25
* 293 *      FLOOR-WEIGHT = 0.1  INF-METHOD = AIR-CHANGE
* 294 *      AIR-CHANGES/HR = 0.5  INF-SCHEDULE = FULL_ON  ..
* 295 *
* 296 *      I-W      HEIGHT = 1.0  WIDTH = 1.0  CONS = INWALL
* 297 *      AZIMUTH = -40  NEXT-TO = FOODPREP_B  ..
* 298 *
* 299 *
* 300 *      END  ..
* 301 *      COMPUTE LOADS  ..
* 302 *
* 303 *      INPUT SYSTEMS  ..

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SDL PROCESSOR INPUT DATA

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* 304 *
* 305 *
* 306 *
* 307 *      $-----$
* 308 *      $EZ - DOE  SYSTEMS INPUT$
* 309 *      $-----$
* 310 *
* 311 *      $ GENERAL PROJECT DATA
* 312 *
* 312 * TITLE LINE-1 *      EMC      ENGINEERS      INC.      *
* 313 * LINE-2 *EZDOE - ELITE SOFTWARE DEVELOPMENT INC*
* 314 * LINE-3 *      DENVER,      CO      80227      *
* 315 *
* 316 * LINE-4 *BUILDING 10550, ENL PERS DINING      *
* 317 * LINE-5 *MODEL WITH SET BACK AND DDC      * ..
* 318 * ABORT      ERRORS
* 319 * DIAGNOSTIC      WARNINGS ..
* 320 * SYSTEMS-REPORT      VERIFICATION=(SV-A,SV-B)
* 321 * SUMMARY=(SS-A,SS-B,SS-C,SS-D,SS-E,SS-F,SS-G,
* 322 *          SS-H,SS-I,SS-J,SS-K,SS-L,SS-M,SS-N,
* 323 *          SS-O) ..
* 324 *
* 325 *      $ SCHEDULES
* 326 *
* 327 * D FULL      =DAY-SCHEDULE (1,24) (1.) ..
* 328 * AHU1D      =DAY-SCHEDULE (1,4) (0.)
* 329 *          (5,18) (1.)
* 330 *          (19,24) (0.) ..
* 331 * AHU2D      =DAY-SCHEDULE (1,2) (1.)
* 332 *          (3,17) (0.)
* 333 *          (18,24) (1.) ..
* 334 * D OFF      =DAY-SCHEDULE (1,24) (0.) ..
* 335 * HODS_ON_D =DAY-SCHEDULE (1,4) (0.)
* 336 *          (5,18) (1.)
* 337 *          (19,24) (0.) ..
* 338 * AHU3W_CFMW =DAY-SCHEDULE (1,4) (0.5)
* 339 *          (5,18) (1.)
* 340 *          (19,24) (0.5) ..
* 341 * HEAT_68_D =DAY-SCHEDULE (1,24) (68.) ..
* 342 * HEAT_40_D =DAY-SCHEDULE (1,24) (40.) ..
* 343 * HEAT_55_D =DAY-SCHEDULE (1,24) (55.) ..
* 344 * AHU4W_CFMW =DAY-SCHEDULE (1,24) (0.77) ..
* 345 * AHU5W_CFMW =DAY-SCHEDULE (1,24) (0.5) ..
* 346 * AHU2W_OA_D =DAY-SCHEDULE (1,24) (0.13) ..
* 347 * 85_D      =DAY-SCHEDULE (1,24) (85.) ..
* 348 * FAN_WSB_D =DAY-SCHEDULE (1,3) (0.)
* 349 *          (4,19) (1.)
* 350 *          (20,24) (0.) ..
* 351 * HT68_WSB_D =DAY-SCHEDULE (1,3) (50.)
* 352 *          (4,19) (68.)
* 353 *          (20,24) (50.) ..
* 354 *
* 355 * W_FULL      =WEEK-SCHEDULE (ALL) D_FULL ..
* 356 *
* 357 * AHU1_WK      =WEEK-SCHEDULE (ALL) AHU1D ..
* 358 *
* 359 * AHU2_WK      =WEEK-SCHEDULE (ALL) AHU2D ..
* 360 *
* 361 * W_OFF      =WEEK-SCHEDULE (ALL) D_OFF ..
* 362 *
* 363 * AHU3W_CFMW =WEEK-SCHEDULE (ALL) AHU3W_CFMW ..
* 364 *
* 365 * HEAT_68_W =WEEK-SCHEDULE (ALL) HEAT_68_D ..
* 366 *
* 367 * HEAT_40_W =WEEK-SCHEDULE (ALL) HEAT_40_D ..
* 368 *
* 369 * HEAT_55_W =WEEK-SCHEDULE (ALL) HEAT_55_D ..
* 370 *
* 371 * AHU4W_CFMW =WEEK-SCHEDULE (ALL) AHU4W_CFMW ..
* 372 *
* 373 * AHU5W_CFMW =WEEK-SCHEDULE (ALL) AHU5W_CFMW ..
* 374 *
* 375 * AHU2W_OA_W =WEEK-SCHEDULE (ALL) AHU2W_OA_D ..
* 376 *
* 377 * 85_W      =WEEK-SCHEDULE (ALL) 85_D ..
* 378 *
* 379 * FAN_WSB_W =WEEK-SCHEDULE (ALL) FAN_WSB_D ..
* 380 *
* 381 * HT68_WSB_W =WEEK-SCHEDULE (ALL) HT68_WSB_D ..
* 382 *
* 383 *
* 384 * FULL_ON      =SCHEDULE THRU DEC 31 W_FULL ..
* 385 *
* 386 * $ AHU1 HEAT SCHEDULE
* 387 * AHU1_ONH      =SCHEDULE THRU DEC 31 AHU1_WK ..
* 388 *
* 389 * $ AHU2 HEAT SCHED
* 390 * AHU2_ONH      =SCHEDULE THRU APR 15 AHU2_WK
* 391 *          THRU OCT 1 W_OFF
* 392 *          THRU DEC 31 AHU2_WK ..
* 393 *
* 394 * $ HEAT SCHEDULE
* 395 * HEAT_SCED      =SCHEDULE THRU APR 15 W_FULL
* 396 *          THRU OCT 1 W_OFF
* 397 *          THRU DEC 31 W_FULL ..
* 398 *
* 399 * $ SUPPLY CFM RATIO
* 400 * AHU3W_CFM      =SCHEDULE THRU MAY 15 AHU3W_CFMW
* 401 *          THRU OCT 1 W_FULL
* 402 *          THRU DEC 31 AHU3W_CFMW ..
* 403 *

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* 404 * $ AHU2 COOL SCHED
* 405 * AHU2_C =SCHEDULE THRU DEC 31 AHU2_WK ..
* 406 *
* 407 * HEAT_68 =SCHEDULE THRU DEC 31 HEAT_68_W ..
* 408 *
* 409 * HEAT_40 =SCHEDULE THRU DEC 31 HEAT_40_W ..
* 410 *
* 411 * HEAT_55 =SCHEDULE THRU DEC 31 HEAT_55_W ..
* 412 *
* 413 * $ CFM RATIO
* 414 * AHU4_CFM =SCHEDULE THRU MAY 15 AHU4W_CFMW
* 415 * THRU OCT 1 W_FUL
* 416 * THRU DEC 31 AHU4W_CFMW ..
* 417 *
* 418 * $ AHU2 & AHU5 CFM RATIOS
* 419 * AHU2&5_CFM =SCHEDULE THRU MAY 15 AHU5W_CFMW
* 420 * THRU OCT 1 W_FUL
* 421 * THRU DEC 31 AHU5W_CFMW ..
* 422 *
* 423 * $ AHU2 OA SCHEDULE
* 424 * AHU2_OA =SCHEDULE THRU MAY 15 AHU2W_OA_W
* 425 * THRU OCT 1 W_FUL
* 426 * THRU DEC 31 AHU2W_OA_W ..
* 427 *
* 428 * $ VENTILATION SCHED
* 429 * COOL_ON =SCHEDULE THRU MAY 15 W_OFF
* 430 * THRU OCT 1 W_FUL
* 431 * THRU DEC 31 W_OFF ..
* 432 *
* 433 * COOL_TEMP =SCHEDULE THRU DEC 31 85_W ..
* 434 *
* 435 * FULL_OFF =SCHEDULE THRU DEC 31 W_OFF ..
* 436 *
* 437 * FAN_W_SB =SCHEDULE THRU DEC 31 FAN_WSB_W ..
* 438 *
* 439 * HT_68_W_SB =SCHEDULE THRU DEC 31 HT68_WSB_W ..
* 440 *
* 441 *
* 442 *
* 443 * $ ZONE DESCRIPTION
* 444 *
* 445 * FOODPREP =ZONE DESIGN-HEAT-T = 68.0 DESIGN-COOL-T = 80.0
* 446 * HEAT-TEMP-SCH = HT 68 W_SB ZONE-TYPE = CONDITIONED
* 447 * THERMOSTAT-TYPE = PROPORTIONAL
* 448 * BASEBOARD-CTRL = THERMOSTATIC
* 449 * BASEBOARD-RATING = -39050. ASSIGNED-CFM = 5265.
* 450 * OUTSIDE-AIR-CFM = 1333. SIZING-OPTION = FROM-LOADS
* 451 * MIN-CFM-RATIO = 1.0 EXHAUST-CFM = 1333.0
* 452 * EXHAUST-STATIC = 0.9 ..
* 453 *
* 454 * SHORTORDER =ZONE DESIGN-HEAT-T = 68.0 DESIGN-COOL-T = 80.0
* 455 * HEAT-TEMP-SCH = HT 68 W_SB ZONE-TYPE = CONDITIONED
* 456 * THERMOSTAT-TYPE = PROPORTIONAL
* 457 * BASEBOARD-CTRL = THERMOSTATIC
* 458 * BASEBOARD-RATING = -5500. ASSIGNED-CFM = 4670.
* 459 * OUTSIDE-AIR-CFM = 4670. SIZING-OPTION = FROM-LOADS
* 460 * MIN-CFM-RATIO = 1.0 MIN-CFM-SCH = AHU3W_CFM
* 461 * EXHAUST-CFM = 4670.0 EXHAUST-STATIC = 0.9 ..
* 462 *
* 463 * DINING =ZONE DESIGN-HEAT-T = 68.0 DESIGN-COOL-T = 80.0
* 464 * HEAT-TEMP-SCH = HT 68 W_SB ZONE-TYPE = CONDITIONED
* 465 * THERMOSTAT-TYPE = PROPORTIONAL ASSIGNED-CFM = 7430.
* 466 * OUTSIDE-AIR-CFM = 360. SIZING-OPTION = FROM-LOADS
* 467 * MIN-CFM-RATIO = 1.0 MIN-CFM-SCH = AHU3W_CFM
* 468 * EXHAUST-CFM = 360.0 EXHAUST-STATIC = 0.9 ..
* 469 *
* 470 * WAREWASH =ZONE DESIGN-HEAT-T = 68.0 DESIGN-COOL-T = 80.0
* 471 * HEAT-TEMP-SCH = HT 68 W_SB ZONE-TYPE = CONDITIONED
* 472 * THERMOSTAT-TYPE = PROPORTIONAL
* 473 * BASEBOARD-CTRL = THERMOSTATIC
* 474 * BASEBOARD-RATING = -8100. ASSIGNED-CFM = 3145.
* 475 * OUTSIDE-AIR-CFM = 3145. SIZING-OPTION = FROM-LOADS
* 476 * MIN-CFM-RATIO = 1.0 MIN-CFM-SCH = AHU2&5_CFM
* 477 * EXHAUST-CFM = 3145.0 EXHAUST-STATIC = 0.9 ..
* 478 *
* 479 * FOODPREP_B =ZONE DESIGN-HEAT-T = 68.0 DESIGN-COOL-T = 85.0
* 480 * HEAT-TEMP-SCH = HT 68 W_SB ZONE-TYPE = CONDITIONED
* 481 * THERMOSTAT-TYPE = PROPORTIONAL
* 482 * BASEBOARD-CTRL = THERMOSTATIC ASSIGNED-CFM = 1600.
* 483 * OUTSIDE-AIR-CFM = 1600. SIZING-OPTION = FROM-LOADS
* 484 * MIN-CFM-RATIO = 1.0 EXHAUST-CFM = 1600.0
* 485 * EXHAUST-STATIC = 0.9 HEATING-CAPACITY = -48384.0 ..
* 486 *
* 487 * FDPREPHOOD =ZONE DESIGN-HEAT-T = 40.0 DESIGN-COOL-T = 85.0
* 488 * HEAT-TEMP-SCH = HEAT 40 ZONE-TYPE = CONDITIONED
* 489 * THERMOSTAT-TYPE = PROPORTIONAL ASSIGNED-CFM = 6400.
* 490 * OUTSIDE-AIR-CFM = 6400. SIZING-OPTION = FROM-LOADS
* 491 * MIN-CFM-RATIO = 1.0 EXHAUST-CFM = 6400.0
* 492 * EXHAUST-STATIC = 2.0 ..
* 493 *
* 494 *
* 495 * $ SYSTEM DESCRIPTION
* 496 *
* 497 * AHU_3 =SYSTEM SYSTEM-TYPE = SZRH
* 498 * MAX-SUPPLY-T = 120.0 MIN-SUPPLY-T = 57.0
* 499 * COOLING-SCHEDULE = FULL OFF HEAT-SET-T = 120.0
* 500 * PREHEAT-T = 41.2 MAX-HUMIDITY = 55.0
* 501 * MIN-HUMIDITY = 35.0 ECONO-LIMIT-T = 65.0
* 502 * ECONO-LOW-LIMIT = 55.0 SUPPLY-CFM = 4670.
* 503 * RATED-CFM = 4670. MIN-OUTSIDE-AIR = 1.0
* 504 * FAN-SCHEDULE = FAN_W_SB SUPPLY-DELTA-T = 2.4
* 505 * SUPPLY-KW = 0.0002
* 506 * MOTOR-PLACEMENT = OUTSIDE-AIRFLOW
* 507 * NIGHT-CYCLE-CTRL = CYCLE-ON-ANY
* 508 * RETURN-STATIC = 0.53 RETURN-EFP = 0.97
* 509 * NIGHT-VENT-DT = 0.0 MIN-CFM-RATIO = 1.0
* 510 * HEATING-CAPACITY = -396650. FURNACE-AUX = 0.
* 511 * FURNACE-HIR = 1.0 PREHEAT-SOURCE = HOT-WATER

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* 512 *      RETURN-AIR-PATH = DUCT
* 513 *      ZONE-NAMES = (SHORTORDER) ..
* 514 *
* 515 * AHU_4      =SYSTEM  SYSTEM-TYPE = SZRH
* 516 *      MAX-SUPPLY-T = 120.0 MIN-SUPPLY-T = 57.0
* 517 *      COOLING-SCHEDULE = FULL OFF HEAT-SET-T = 100.0
* 518 *      PREHEAT-T = 41.2 MAX-HUMIDITY = 65.0
* 519 *      MIN-HUMIDITY = 35.0 ECONO-LIMIT-T = 65.0
* 520 *      ECONO-LOW-LIMIT = 55.0 SUPPLY-CFM = 7430.
* 521 *      RETURN-CFM = 7070. RATED-CFM = 7430.
* 522 *      MIN-OUTSIDE-AIR = 0.05 FAN-SCHEDULE = FAN_W_SB
* 523 *      SUPPLY-DELTA-T = 2.4 SUPPLY-KW = 0.00025
* 524 *      MOTOR-PLACEMENT = OUTSIDE-AIRFLOW
* 525 *      NIGHT-CYCLE-CTRL = CYCLE-ON-ANY
* 526 *      RETURN-STATIC = 0.95 RETURN-EFF = 0.97
* 527 *      NIGHT-VENT-DT = 0.0 MIN-CFM-RATIO = 1.0
* 528 *      HEATING-CAPACITY = -256775. FURNACE-AUX = 0.
* 529 *      FURNACE-HIR = 1.0 PREHEAT-SOURCE = HOT-WATER
* 530 *      RETURN-AIR-PATH = DUCT
* 531 *      ZONE-NAMES = (DINING) ..
* 532 *
* 533 * AHU_1      =SYSTEM  SYSTEM-TYPE = SZRH
* 534 *      MAX-SUPPLY-T = 120.0 MIN-SUPPLY-T = 45.0
* 535 *      COOLING-SCHEDULE = FULL OFF HEAT-SET-T = 120.0
* 536 *      PREHEAT-T = 40.0 MAX-HUMIDITY = 55.0
* 537 *      MIN-HUMIDITY = 35.0 ECONO-LIMIT-T = 65.0
* 538 *      ECONO-LOW-LIMIT = 55.0 SUPPLY-CFM = 1600.
* 539 *      RATED-CFM = 1600. MIN-OUTSIDE-AIR = 1.0
* 540 *      FAN-SCHEDULE = FAN_W_SB SUPPLY-DELTA-T = 2.4
* 541 *      SUPPLY-KW = 0.00065
* 542 *      MOTOR-PLACEMENT = OUTSIDE-AIRFLOW
* 543 *      NIGHT-CYCLE-CTRL = CYCLE-ON-ANY NIGHT-VENT-DT = 0.0
* 544 *      MIN-CFM-RATIO = 1.0 REHEAT-DELTA-T = 32.
* 545 *      COOL-FT-MIN = 0. HEATING-CAPACITY = -81216.
* 546 *      FURNACE-AUX = 0. FURNACE-HIR = 1.0
* 547 *      PREHEAT-SOURCE = HOT-WATER RETURN-AIR-PATH = DUCT
* 548 *      ZONE-NAMES = (FOODPREP_B) ..
* 549 *
* 550 * AHU_5      =SYSTEM  SYSTEM-TYPE = SZRH
* 551 *      MAX-SUPPLY-T = 120.0 MIN-SUPPLY-T = 57.0
* 552 *      COOLING-SCHEDULE = FULL OFF HEAT-SET-T = 100.0
* 553 *      PREHEAT-T = 41.2 MAX-HUMIDITY = 65.0
* 554 *      MIN-HUMIDITY = 35.0 ECONO-LIMIT-T = 65.0
* 555 *      ECONO-LOW-LIMIT = 55.0 SUPPLY-CFM = 3145.
* 556 *      RATED-CFM = 3145. MIN-OUTSIDE-AIR = 1.0
* 557 *      FAN-SCHEDULE = FAN_W_SB SUPPLY-DELTA-T = 2.4
* 558 *      SUPPLY-KW = 0.00053
* 559 *      MOTOR-PLACEMENT = OUTSIDE-AIRFLOW
* 560 *      NIGHT-CYCLE-CTRL = CYCLE-ON-ANY
* 561 *      RETURN-STATIC = 1.38 RETURN-EFF = 0.97
* 562 *      NIGHT-VENT-DT = 0.0 MIN-CFM-RATIO = 1.0
* 563 *      HEATING-CAPACITY = -263764. FURNACE-AUX = 0.
* 564 *      FURNACE-HIR = 1.0 PREHEAT-SOURCE = HOT-WATER
* 565 *      RETURN-AIR-PATH = DUCT
* 566 *      ZONE-NAMES = (WAREWASH) ..
* 567 *
* 568 * AHU_2      =SYSTEM  SYSTEM-TYPE = SZRH
* 569 *      MAX-SUPPLY-T = 120.0 MIN-SUPPLY-T = 57.0
* 570 *      COOLING-SCHEDULE = FULL OFF HEAT-SET-T = 120.0
* 571 *      PREHEAT-T = 41.2 MAX-HUMIDITY = 55.0
* 572 *      MIN-HUMIDITY = 35.0 ECONO-LIMIT-T = 65.0
* 573 *      ECONO-LOW-LIMIT = 55.0 SUPPLY-CFM = 5265.
* 574 *      RETURN-CFM = 3932. RATED-CFM = 5265.
* 575 *      MIN-OUTSIDE-AIR = 0.25 FAN-SCHEDULE = FAN_W_SB
* 576 *      SUPPLY-DELTA-T = 2.4 SUPPLY-KW = 0.00021
* 577 *      MOTOR-PLACEMENT = OUTSIDE-AIRFLOW
* 578 *      NIGHT-CYCLE-CTRL = CYCLE-ON-ANY NIGHT-VENT-DT = 0.0
* 579 *      MIN-CFM-RATIO = 1.0 COOL-FT-MIN = 0.
* 580 *      HEATING-CAPACITY = -150857. FURNACE-AUX = 0.
* 581 *      FURNACE-HIR = 1.0 PREHEAT-SOURCE = HOT-WATER
* 582 *      RETURN-AIR-PATH = DUCT
* 583 *      ZONE-NAMES = (FOODPREP) ..
* 584 *
* 585 * AHU_1B     =SYSTEM  SYSTEM-TYPE = SZRH
* 586 *      MAX-SUPPLY-T = 120.0 MIN-SUPPLY-T = 45.0
* 587 *      PREHEAT-T = 40.0 MIN-HUMIDITY = 30.0
* 588 *      ECONO-LIMIT-T = 65.0 ECONO-LOW-LIMIT = 55.0
* 589 *      SUPPLY-CFM = 6400. RATED-CFM = 6400.
* 590 *      MIN-OUTSIDE-AIR = 1.0 FAN-SCHEDULE = FAN_W_SB
* 591 *      SUPPLY-DELTA-T = 2.4 SUPPLY-KW = 0.00065
* 592 *      NIGHT-CYCLE-CTRL = STAY-OFF NIGHT-VENT-DT = 0.0
* 593 *      MIN-CFM-RATIO = 1.0 HEATING-CAPACITY = -324864.
* 594 *      FURNACE-AUX = 0. PREHEAT-SOURCE = HOT-WATER
* 595 *      ZONE-NAMES = (FDPREPHOOD) ..
* 596 *
* 597 *
* 598 *      $ HOURLY REPORT DESCRIPTION
* 599 *
* 600 * SYST1      =REPORT-BLOCK VARIABLE-TYPE = FOODPREP
* 601 *      VARIABLE-LIST = (6) ..
* 602 * SYST2      =REPORT-BLOCK VARIABLE-TYPE = SHORTORDER
* 603 *      VARIABLE-LIST = (6) ..
* 604 * SYST3      =REPORT-BLOCK VARIABLE-TYPE = DINING
* 605 *      VARIABLE-LIST = (6) ..
* 606 * SYST4      =REPORT-BLOCK VARIABLE-TYPE = WAREWASH
* 607 *      VARIABLE-LIST = (6) ..
* 608 * SYST5      =REPORT-BLOCK VARIABLE-TYPE = FOODPREP_B
* 609 *      VARIABLE-LIST = (6) ..
* 610 * REP1       = HOURLY-REPORT REPORT-SCHEDULE = FULL ON
* 611 *      REPORT-BLOCK = (SYST1,SYST2,SYST3,SYST4,SYST5)
* 612 *
* 613 * END ..
* 614 * COMPUTE SYSTEMS ..
* 615 *
* 616 * INPUT PLANT ..

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PDL PROCESSOR INPUT DATA

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* 617 *
* 618 *
* 619 *
* 620 *      $-----$
* 621 *      $EZ - DOE PLANTS INPUT $
* 622 *      $-----$
* 623 *
* 624 *      $ GENERAL PROJECT DATA
* 625 * TITLE LINE-1 * EMC ENGINEERS INC. *
* 626 * LINE-2 *EZDOE - ELITE SOFTWARE DEVELOPMENT INC*
* 627 * LINE-3 * DENVER, CO 80227 *
* 628 *
* 629 * LINE-4 *BUILDING 10550, ENL PERS DINING *
* 630 * LINE-5 *MODEL WITH SET BACK AND DDC * ..
* 631 *
* 632 * ABORT ERRORS ..
* 633 * DIAGNOSTIC WARNINGS ..
* 634 * PLANT-REPORT VERIFICATION=(PV-A)
* 635 * SUMMARY=(PS-A,PS-B,PS-D,PS-H,PS-I,BEPS) ..
* 636 *
* 637 *      $ SCHEDULES
* 638 *
* 639 * DAY_ON =DAY-SCHEDULE (1,7) (0.)
* 640 * (8,18) (1.)
* 641 * (19,24) (0.) ..
* 642 *
* 643 *
* 644 * FULL_ON =WEEK-SCHEDULE (ALL) DAY_ON ..
* 645 *
* 646 *
* 647 * $ heating plant schedule
* 648 * heating =SCHEDULE THRU DEC 31 FULL_ON ..
* 649 *
* 650 *
* 651 *
* 652 *      $ EQUIPMENT DESCRIPTION
* 653 *
* 654 * HEAT-EXGR =PLANT-EQUIPMENT TYPE = HTANK-STORAGE
* 655 * SIZE = 1.5 ..
* 656 *
* 657 * PLANT-PARAMETERS BOILER-FUEL = NATURAL-GAS MAKEUP-WTR-T = 50.
* 658 * STM-BOILER-HIR = 0.76 HW-BOILER-HIR = 1.27
* 659 * CHILLER-CONTROL = STANDBY OPEN-REC-COND-TYPE = AIR
* 660 * HERM-REC-COND-TYPE = AIR COMP-TO-TWR-WTR = 2.77
* 661 * CCIRC-HEAD = 100.0 HCIRC-HEAD = 50.0 ..
* 662 *
* 663 *
* 664 * PART-LOAD-RATIO TYPE = HW-BOILER
* 665 * MIN-RATIO = 0.2500 MAX-RATIO = 1.0000
* 666 * OPERATING-RATIO = 1.0000 ELEC-INPUT-RATIO = 0.0220 ..
* 667 *
* 668 * ENERGY-RESOURCE RESOURCE = ELECTRICITY ..
* 669 * ENERGY-RESOURCE RESOURCE = STEAM SOURCE-SITE-EFF = 1.000 ..
* 670 *
* 671 * ENERGY-STORAGE HEAT-STORE-RATE = 1.51 HEAT-SUPPLY-RATE = 1.51
* 672 * HTANK-BASE-T = 144.0 HTANK-T-RANGE = 15.6
* 673 * HEAT-STORE-SCH = heating ..
* 674 *
* 675 * HEAT-RECOVERY
* 676 * SUPPLY-1 = (HTANK-STORAGE)
* 677 * DEMAND-1 = (SPACE-HEAT,PROCESS-HEAT) ..
* 678 *
* 679 *
* 680 *
* 681 * END ..
* 682 * COMPUTE PLANT ..
* 683 * STOP ..

```

ENERGY TYPE IN SITE MBTU-	STEAM	ELECTRICITY	NATURAL-GAS
CATEGORY OF USE			
SPACE HEAT	2,582.52	0.00	0.00
SPACE COOL	0.00	0.00	0.00
HVAC AUX	0.00	330.10	0.00
DOM HOT WTR	1,977.94	0.00	0.00
AUX SOLAR	0.00	0.00	0.00
LIGHTS	0.00	165.18	0.00
VERT TRANS	0.00	0.00	0.00
MISC EQUIP	0.00	798.25	1,042.82
	-----	-----	-----
TOTAL	4,560.46	1,293.53	1,042.82

TOTAL SITE ENERGY 6896.97 MBTU 443.2 KBTU/SQFT-YR GROSS-AREA 467.4 KBTU/SQFT-YR NET-AREA  
 TOTAL SOURCE ENERGY 9487.98 MBTU 609.8 KBTU/SQFT-YR GROSS-AREA 642.9 KBTU/SQFT-YR NET-AREA

PERCENT OF HOURS ANY SYSTEM ZONE OUTSIDE OF THROTTLING RANGE = 1.1  
 PERCENT OF HOURS ANY PLANT LOAD NOT SATISFIED = 0.0

NOTE ELECTRICITY AND/OR FUEL USED TO GENERATE ELECTRICITY IS APPORTIONED BASED  
 ON THE YEARLY DEMAND. ALL OTHER ENERGY TYPES ARE APPORTIONED HOURLY.

MO	UTILITY-	STEAM	ELECTRICITY	NATURAL-GAS
	TOTAL (MBTU)	717.507	110.509	88.576
JAN	PEAK (KBTU)	2124.280	336.279	119.053
	DY/HR	26/ 7	31/16	31/24
	TOTAL (MBTU)	567.324	99.794	80.004
FEB	PEAK (KBTU)	1775.472	336.279	119.053
	DY/HR	5/ 5	28/16	28/24
	TOTAL (MBTU)	561.132	110.486	88.576
MAR	PEAK (KBTU)	1896.761	336.279	119.053
	DY/HR	9/ 5	31/16	31/24
	TOTAL (MBTU)	357.201	106.899	85.718
APR	PEAK (KBTU)	1349.891	336.279	119.053
	DY/HR	1/ 4	30/16	30/ 1
	TOTAL (MBTU)	267.432	109.927	88.576
MAY	PEAK (KBTU)	986.379	336.279	119.053
	DY/HR	17/ 4	28/16	31/ 1
	TOTAL (MBTU)	184.175	105.378	85.718
JUN	PEAK (KBTU)	643.381	336.279	119.053
	DY/HR	8/ 5	21/16	30/ 1
	TOTAL (MBTU)	175.264	108.232	88.576
JUL	PEAK (KBTU)	543.663	336.279	119.053
	DY/HR	25/ 4	31/16	31/ 1
	TOTAL (MBTU)	182.985	108.674	88.576
AUG	PEAK (KBTU)	558.390	336.279	119.053
	DY/HR	22/ 5	30/16	31/ 1
	TOTAL (MBTU)	217.620	105.897	85.718
SEP	PEAK (KBTU)	914.212	336.279	119.053
	DY/HR	24/ 4	29/16	30/ 1
	TOTAL (MBTU)	305.370	110.358	88.576
OCT	PEAK (KBTU)	1077.653	336.279	119.053
	DY/HR	21/ 6	31/16	31/24
	TOTAL (MBTU)	423.085	106.922	85.718
NOV	PEAK (KBTU)	1489.983	336.279	119.053
	DY/HR	28/ 4	30/16	30/24
	TOTAL (MBTU)	601.406	110.486	88.576
DEC	PEAK (KBTU)	1851.589	336.279	119.053
	DY/HR	31/ 4	31/16	31/24
	ONE YEAR	4560.502	1293.561	1042.905
	USE/PEAK	2124.280	336.279	119.053

LDL PROCESSOR INPUT DATA

3/18/1995 9:41:47 LDL RUN 1

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* 3 *
* 4 *
* 5 *
* 6 *          $-----$
* 7 *          $EZ - DOE LOADS INPUT$
* 8 *          $-----$
* 9 *
* 10 *          $ GENERAL PROJECT DATA
* 11 * TITLE LINE-1 * EMC ENGINEERS INC. *
* 12 * LINE-2 *EZDOE - ELITE SOFTWARE DEVELOPMENT INC*
* 13 * LINE-3 * DENVER, CO 80227 *
* 14 *
* 15 * LINE-4 *BUILDING 10550, ENL PERS DINING *
* 16 * LINE-5 *SETBACK, DDC, AND FORCED VENTILATION * ..
* 17 *
* 18 * ABORT ERRORS ..
* 19 * DIAGNOSTIC WARNINGS ..
* 20 * LOADS-REPORT VERIFICATION=(LV-A,LV-B,LV-C)
* 21 * SUMMARY=(LS-A,LS-B,LS-C,LS-D,LS-E,LS-F,LS-K) ..
* 22 * BUILDING-LOCATION LATITUDE = 44.0
* 23 * ALTITUDE = 655.
* 24 * AZIMUTH = -40.
* 25 * TIME-ZONE = 5
* 26 * GROSS-AREA = 15560
* 27 * HOLIDAY = NO
* 28 * SHIELDING-COEF = 0.29
* 29 * X-REF = 0.0
* 30 * Y-REF = 0.0
* 31 * RUN-PERIOD JAN 1 1994 THRU DEC 31 1994 ..
* 32 *
* 33 *
* 34 *          $ SCHEDULES
* 35 *
* 36 * LIGHTS =DAY-SCHEDULE (1,2) (1.)
* 37 * (3,11) (0.5)
* 38 * (12,13) (0.6)
* 39 * (14,24) (1.) ..
* 40 *
* 41 * OCCUP =DAY-SCHEDULE (1,5) (0.)
* 42 * (6,8) (0.1,0.4,0.7)
* 43 * (9,10) (0.1)
* 44 * (11,12) (0.4,0.8)
* 45 * (13,15) (0.1)
* 46 * (16,17) (0.3,0.9)
* 47 * (18) (0.1)
* 48 * (19,24) (0.) ..
* 49 *
* 50 * APPLIANCE =DAY-SCHEDULE (1) (0.)
* 51 * (2,3) (0.7)
* 52 * (4,12) (0.02)
* 53 * (13,15) (0.6)
* 54 * (16,18) (0.02)
* 55 * (19,20) (0.7)
* 56 * (21,24) (0.8) ..
* 57 *
* 58 * FULL_ON_D =DAY-SCHEDULE (1,24) (1.) ..
* 59 *
* 60 * FULL_OFFD =DAY-SCHEDULE (1,24) (0.) ..
* 61 *
* 62 * appliance =DAY-SCHEDULE (1,3) (0.)
* 63 * (4) (0.1)
* 64 * (5,6) (0.4)
* 65 * (7,11) (0.6,0.7,0.3,0.4,0.6)
* 66 * (12,16) (0.7,0.6,0.4,0.6,0.8)
* 67 * (17,18) (0.5,0.1)
* 68 * (19,24) (0.) ..
* 69 *
* 70 * lights =DAY-SCHEDULE (1,3) (0.)
* 71 * (4,6) (0.2,0.4,0.5)
* 72 * (7,16) (0.8)
* 73 * (17,18) (0.7,0.4)
* 74 * (19,24) (0.) ..
* 75 *
* 76 *
* 77 * PEOPLE =WEEK-SCHEDULE (ALL) OCCUP ..
* 78 *
* 79 * LIGHTS_WK =WEEK-SCHEDULE (ALL) lights ..
* 80 *
* 81 * APPLI_WK =WEEK-SCHEDULE (ALL) appliance ..
* 82 *
* 83 * FULL_ON_W =WEEK-SCHEDULE (ALL) FULL_ON_D ..
* 84 *
* 85 * FULL_OFFW =WEEK-SCHEDULE (ALL) FULL_OFFD ..
* 86 *
* 87 *
* 88 * $ FULL_ON SCHEDULE
* 89 * FULL_ON =SCHEDULE THRU DEC 31 FULL_ON_W ..
* 90 *
* 91 * $ LOADS OCCUPANCY SCHED
* 92 * OCCUPANCY =SCHEDULE THRU DEC 31 PEOPLE ..
* 93 *
* 94 * $ LIGHTING SCHEDULE
* 95 * LIGHTS_ON =SCHEDULE THRU DEC 31 LIGHTS_WK ..
* 96 *
* 97 * $ APPLIANCE SCHEDULE
* 98 * APPLI_ON =SCHEDULE THRU DEC 31 APPLI_WK ..
* 99 *
* 100 * $ COND VENTIL SCHED
* 101 * CND_SCHED =SCHEDULE THRU MAR 1 FULL_OFFW
* 102 * THRU NOV 30 FULL_ON_W

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* 103 *          THRU DEC 31 FULL_OFFW ..
* 104 *
* 105 *
* 106 *
* 107 *          $ CONSTRUCTION TYPES
* 108 *
* 109 *
* 110 *
* 111 *
* 112 *          $ DOOR CONSTRUCTION
* 113 * DOORCON =CONSTRUCTION U-VALUE = 0.400 ..
* 114 * FLOOR   =CONSTRUCTION U-VALUE = 0.100
* 115 *                               ABSORPTANCE = 1.000
* 116 *                               ROUGHNESS = 1 ..
* 117 * ROOFCON =CONSTRUCTION U-VALUE = 0.050 ..
* 118 * EXWALL  =CONSTRUCTION U-VALUE = 0.200
* 119 *                               ABSORPTANCE = 0.750 ..
* 120 * INWALL  =CONSTRUCTION U-VALUE = 0.500 ..
* 121 *
* 122 *          $ APPRX OF AIR FLOW BETWEEN SPACES
* 123 * AIR_WALL =CONSTRUCTION U-VALUE = 20.000 ..
* 124 *
* 125 * GTYPE_1 =GLASS-TYPE SHADING-COEF = 0.400
* 126 *                               PANES = 1
* 127 *                               GLASS-CONDUCTANCE = 1.130 ..
* 128 * GTYPE_2 =GLASS-TYPE SHADING-COEF = 0.300
* 129 *                               PANES = 1
* 130 *                               GLASS-CONDUCTANCE = 0.790 ..
* 131 * GTYPE_3 =GLASS-TYPE SHADING-COEF = 0.400
* 132 *                               PANES = 1
* 133 *                               GLASS-CONDUCTANCE = 0.360 ..
* 134 *
* 135 *
* 136 *
* 137 *
* 138 *          $ SPACE DESCRIPTION
* 139 *
* 140 * FOODPREP =SPACE AREA = 3015.0 VOLUME = 27135.0
* 141 *                               AZIMUTH = -40 ZONE-TYPE = CONDITIONED
* 142 *                               PEOPLE-SCHEDULE = OCCUPANCY NUMBER-OF-PEOPLE = 15.0
* 143 *                               PEOPLE-HEAT-GAIN = 640.0
* 144 *                               LIGHTING-TYPE = REC-FLUOR-RV LIGHTING-KW = 3.0
* 145 *                               LIGHT-TO-SPACE = 1.0 LIGHTING-SCHEDULE = LIGHTS_ON
* 146 *                               EQUIP-SCHEDULE = APPLI_ON EQUIPMENT-KW = 57.0
* 147 *                               EQUIP-SENSIBLE = 0.0 SOURCE-SCHEDULE = FULL_ON
* 148 *                               SOURCE-TYPE = GAS SOURCE-BTU/HR = 119053.0
* 149 *                               SOURCE-SENSIBLE = 0.0 INF-METHOD = AIR-CHANGE
* 150 *                               AIR-CHANGES/HR = 0.33 INF-SCHEDULE = FULL_ON ..
* 151 *
* 152 * E-W HEIGHT = 9.0 WIDTH = 44.0 CONS = EXWALL
* 153 * AZIMUTH = -40 ..
* 154 *
* 155 * I-W HEIGHT = 9.0 WIDTH = 87.0 CONS = INWALL
* 156 * AZIMUTH = -130 NEXT-TO = SHORTORDER ..
* 157 *
* 158 * I-W HEIGHT = 9.0 WIDTH = 44.0 CONS = INWALL
* 159 * AZIMUTH = 140 NEXT-TO = SHORTORDER ..
* 160 *
* 161 * E-W HEIGHT = 9.0 WIDTH = 87.0 CONS = EXWALL
* 162 * AZIMUTH = 50 ..
* 163 *
* 164 * DOOR HEIGHT = 8.0 WIDTH = 6.0 CONS = DOORCON
* 165 * MULTIPLIER = 2.0 ..
* 166 *
* 167 * ROOF HEIGHT = 87.0 WIDTH = 44.0 CONS = ROOFCON
* 168 * AZIMUTH = -40 TILT = 0 ..
* 169 *
* 170 * U-W HEIGHT = 87.0 WIDTH = 44.0 CONS = FLOOR
* 171 * AZIMUTH = -40 ..
* 172 *
* 173 *
* 174 * SHORTORDER =SPACE AREA = 2573.0 VOLUME = 23157.0
* 175 *                               AZIMUTH = -40 ZONE-TYPE = CONDITIONED
* 176 *                               PEOPLE-SCHEDULE = OCCUPANCY NUMBER-OF-PEOPLE = 8.0
* 177 *                               PEOPLE-HEAT-GAIN = 640.0 LIGHTING-TYPE = INCAND
* 178 *                               LIGHTING-KW = 1.5 LIGHT-TO-SPACE = 1.0
* 179 *                               LIGHTING-SCHEDULE = LIGHTS_ON
* 180 *                               EQUIP-SCHEDULE = APPLI_ON EQUIPMENT-KW = 30.0
* 181 *                               EQUIP-SENSIBLE = 0.0 SOURCE-SCHEDULE = FULL_ON
* 182 *                               SOURCE-TYPE = HOT-WATER SOURCE-BTU/HR = 225799.0
* 183 *                               SOURCE-SENSIBLE = 0.0 INF-METHOD = AIR-CHANGE
* 184 *                               AIR-CHANGES/HR = 0.5 INF-SCHEDULE = FULL_ON ..
* 185 *
* 186 * E-W HEIGHT = 9.0 WIDTH = 27.0 CONS = EXWALL
* 187 * AZIMUTH = -40 ..
* 188 *
* 189 * DOOR HEIGHT = 7.0 WIDTH = 3.0 CONS = ROOFCON
* 190 * MULTIPLIER = 2.0 ..
* 191 *
* 192 * I-W HEIGHT = 9.0 WIDTH = 40.0 CONS = INWALL
* 193 * AZIMUTH = -130 NEXT-TO = WAREWASH ..
* 194 *
* 195 * I-W HEIGHT = 9.0 WIDTH = 27.0 CONS = INWALL
* 196 * AZIMUTH = 140 NEXT-TO = DINING ..
* 197 *
* 198 * I-W HEIGHT = 9.0 WIDTH = 40.0 CONS = INWALL
* 199 * AZIMUTH = 50 NEXT-TO = FOODPREP ..
* 200 *
* 201 * ROOF HEIGHT = 40.0 WIDTH = 27.0 CONS = ROOFCON
* 202 * AZIMUTH = -40 TILT = 0 ..
* 203 *
* 204 * U-W HEIGHT = 40.0 WIDTH = 27.0 CONS = FLOOR
* 205 * AZIMUTH = -40 ..
* 206 *
* 207 *
* 208 * DINING =SPACE AREA = 4982.0 VOLUME = 44838.0
* 209 *                               AZIMUTH = -40 ZONE-TYPE = CONDITIONED
* 210 *                               PEOPLE-SCHEDULE = OCCUPANCY NUMBER-OF-PEOPLE = 100.0

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* 211 *      PEOPLE-HEAT-GAIN = 640.0  LIGHTING-TYPE = INCAND
* 212 *      LIGHTING-KW = 7.0  LIGHT-TO-SPACE = 1.0
* 213 *      LIGHTING-SCHEDULE = LIGHTS_ON
* 214 *      EQUIP-SCHEDULE = APPLI_ON  EQUIPMENT-KW = 1.0
* 215 *      EQUIP-SENSIBLE = 0.25  SOURCE-SENSIBLE = 0.0
* 216 *      INF-METHOD = AIR-CHANGE  AIR-CHANGES/HR = 0.66
* 217 *      INF-SCHEDULE = FULL_ON  ..
* 218 *
* 219 *      I-W      HEIGHT = 9.0  WIDTH = 85.0  CONS = INWALL
* 220 *      AZIMUTH = -40  NEXT-TO = WAREWASH  ..
* 221 *
* 222 *      E-W      HEIGHT = 9.0  WIDTH = 47.0  CONS = EXWALL
* 223 *      AZIMUTH = -130  ..
* 224 *
* 225 *      E-W      HEIGHT = 9.0  WIDTH = 85.0  CONS = EXWALL
* 226 *      AZIMUTH = 140  ..
* 227 *
* 228 *      WINDOW HEIGHT = 7.0  WIDTH = 4.0  G-T = GTYPE_1
* 229 *      MULTIPLIER = 6.0  ..
* 230 *
* 231 *      DOOR  HEIGHT = 7.0  WIDTH = 3.0  CONS = ROOFCON ..
* 232 *
* 233 *      I-W      HEIGHT = 9.0  WIDTH = 47.0  CONS = INWALL
* 234 *      AZIMUTH = 50  NEXT-TO = FOODPREP  ..
* 235 *
* 236 *      ROOF      HEIGHT = 47.0  WIDTH = 85.0  CONS = ROOFCON
* 237 *      AZIMUTH = -40  TILT = 0  ..
* 238 *
* 239 *      U-W      HEIGHT = 47.0  WIDTH = 85.0  CONS = FLOOR
* 240 *      AZIMUTH = -40  ..
* 241 *
* 242 *
* 243 *  WAREWASH  =SPACE  AREA = 3187.0  VOLUME = 28683.0
* 244 *      AZIMUTH = -40  ZONE-TYPE = CONDITIONED
* 245 *      PEOPLE-SCHEDULE = OCCUPANCY  NUMBER-OF-PEOPLE = 5.0
* 246 *      PEOPLE-HEAT-GAIN = 640.0  LIGHTING-TYPE = INCAND
* 247 *      LIGHTING-KW = 1.5  LIGHT-TO-SPACE = 1.0
* 248 *      LIGHTING-SCHEDULE = LIGHTS_ON
* 249 *      EQUIP-SCHEDULE = APPLI_ON  EQUIPMENT-KW = 1.0
* 250 *      EQUIP-SENSIBLE = 0.25  SOURCE-SENSIBLE = 0.0
* 251 *      INF-METHOD = AIR-CHANGE  AIR-CHANGES/HR = 0.66
* 252 *      INF-SCHEDULE = FULL_ON  ..
* 253 *
* 254 *      E-W      HEIGHT = 9.0  WIDTH = 55.0  CONS = EXWALL
* 255 *      AZIMUTH = -40  ..
* 256 *
* 257 *      DOOR  HEIGHT = 7.0  WIDTH = 3.0  CONS = DOORCON
* 258 *      MULTIPLIER = 3.0  ..
* 259 *
* 260 *      E-W      HEIGHT = 9.0  WIDTH = 40.0  CONS = EXWALL
* 261 *      AZIMUTH = -130  ..
* 262 *
* 263 *      I-W      HEIGHT = 9.0  WIDTH = 55.0  CONS = INWALL
* 264 *      AZIMUTH = 140  NEXT-TO = DINING  ..
* 265 *
* 266 *      I-W      HEIGHT = 9.0  WIDTH = 40.0  CONS = INWALL
* 267 *      AZIMUTH = 50  NEXT-TO = SHORTORDER  ..
* 268 *
* 269 *      ROOF      HEIGHT = 40.0  WIDTH = 55.0  CONS = ROOFCON
* 270 *      AZIMUTH = -40  TILT = 0  ..
* 271 *
* 272 *      U-W      HEIGHT = 40.0  WIDTH = 55.0  CONS = FLOOR
* 273 *      AZIMUTH = -40  ..
* 274 *
* 275 *
* 276 *  FOODPREP_B  =SPACE  AREA = 800.0  VOLUME = 7200.0
* 277 *      AZIMUTH = -40  ZONE-TYPE = CONDITIONED
* 278 *      PEOPLE-SCHEDULE = FULL_ON  NUMBER-OF-PEOPLE = 10.0
* 279 *      LIGHTING-SCHEDULE = FULL_ON  EQUIP-SCHEDULE = FULL_ON
* 280 *      EQUIP-SENSIBLE = 0.25  FLOOR-WEIGHT = 0.1
* 281 *      INF-METHOD = AIR-CHANGE  AIR-CHANGES/HR = 0.66
* 282 *      INF-SCHEDULE = FULL_ON  ..
* 283 *
* 284 *      I-W      HEIGHT = 9.0  WIDTH = 30.0  CONS = AIR_WALL
* 285 *      AZIMUTH = -40  NEXT-TO = FOODPREP  ..
* 286 *
* 287 *
* 288 *  FDPREPHOOD  =SPACE  AREA = 200.0  VOLUME = 1600.0
* 289 *      AZIMUTH = -40  TEMPERATURE = (55.)
* 290 *      ZONE-TYPE = CONDITIONED  PEOPLE-SCHEDULE = FULL_ON
* 291 *      AREA/PERSON = 10.0  LIGHTING-SCHEDULE = FULL_ON
* 292 *      EQUIP-SCHEDULE = FULL_ON  EQUIP-SENSIBLE = 0.25
* 293 *      FLOOR-WEIGHT = 0.1  INF-METHOD = AIR-CHANGE
* 294 *      AIR-CHANGES/HR = 0.5  INF-SCHEDULE = FULL_ON  ..
* 295 *
* 296 *      I-W      HEIGHT = 1.0  WIDTH = 1.0  CONS = INWALL
* 297 *      AZIMUTH = -40  NEXT-TO = FOODPREP_B  ..
* 298 *
* 299 *
* 300 *  END  ..
* 301 *  COMPUTE LOADS  ..
* 302 *
* 303 *  INPUT SYSTEMS  ..

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**COMPUTER SIMULATIONS**  
**BUILDING 10550**

**RUN 4 - FORCED VENTILATION**

SDL PROCESSOR INPUT DATA

3/18/1995 9:41:47 SDL RUN 1

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$-----$
$EZ - DOE SYSTEMS INPUT $
$-----$

$ GENERAL PROJECT DATA

TITLE LINE-1 * EMC ENGINEERS INC. *
LINE-2 *EZDOE - ELITE SOFTWARE DEVELOPMENT INC*
LINE-3 * DENVER, CO 80227 *
LINE-4 *BUILDING 10550, ENL PERS DINING *
LINE-5 *SETBACK, DDC, AND FORCED VENTILATION * ..

ABORT ERRORS
DIAGNOSTIC WARNINGS ..
SYSTEMS-REPORT VERIFICATION=(SV-A,SV-B)
SUMMARY=(SS-A,SS-B,SS-C,SS-D,SS-E,SS-F,SS-G,
SS-H,SS-I,SS-J,SS-K,SS-L,SS-M,SS-N,
SS-O) ..

$ SCHEDULES

D_FULL =DAY-SCHEDULE (1,24) (1.) ..
AHU1D =DAY-SCHEDULE (1,4) (0.) ..
AHU2D =DAY-SCHEDULE (5,18) (1.) ..
(19,24) (0.) ..
(1,2) (1.) ..
(3,17) (0.) ..
(18,24) (1.) ..
(1,24) (0.) ..
HOODS_ON_D =DAY-SCHEDULE (1,4) (0.) ..
(5,18) (1.) ..
(19,24) (0.) ..
AHU3W_CFM D =DAY-SCHEDULE (1,4) (0.5) ..
(5,18) (1.) ..
(19,24) (0.5) ..
HEAT_68_D =DAY-SCHEDULE (1,24) (68.) ..
HEAT_40_D =DAY-SCHEDULE (1,24) (40.) ..
HEAT_55_D =DAY-SCHEDULE (1,24) (55.) ..
AHU4W_CFM D =DAY-SCHEDULE (1,24) (0.77) ..
AHU5W_CFM D =DAY-SCHEDULE (1,24) (0.5) ..
AHU2W_OA_D =DAY-SCHEDULE (1,24) (0.13) ..
85_D =DAY-SCHEDULE (1,24) (85.) ..
FAN_WSB_D =DAY-SCHEDULE (1,3) (0.) ..
(4,19) (1.) ..
(20,24) (0.) ..
HT68_WSB_D =DAY-SCHEDULE (1,3) (50.) ..
(4,19) (68.) ..
(20,24) (50.) ..
MOA_.25_D =DAY-SCHEDULE (1,4) (0.) ..
(5,19) (0.25) ..
(20,24) (0.) ..

W_FULL =WEEK-SCHEDULE (ALL) D_FULL ..
AHU1_WK =WEEK-SCHEDULE (ALL) AHU1D ..
AHU2_WK =WEEK-SCHEDULE (ALL) AHU2D ..
W_OFF =WEEK-SCHEDULE (ALL) D_OFF ..
AHU3W_CFM W =WEEK-SCHEDULE (ALL) AHU3W_CFM D ..
HEAT_68_W =WEEK-SCHEDULE (ALL) HEAT_68_D ..
HEAT_40_W =WEEK-SCHEDULE (ALL) HEAT_40_D ..
HEAT_55_W =WEEK-SCHEDULE (ALL) HEAT_55_D ..
AHU4W_CFM W =WEEK-SCHEDULE (ALL) AHU4W_CFM D ..
AHU5W_CFM W =WEEK-SCHEDULE (ALL) AHU5W_CFM D ..
AHU2W_OA_W =WEEK-SCHEDULE (ALL) AHU2W_OA_D ..
85_W =WEEK-SCHEDULE (ALL) 85_D ..
FAN_WSB_W =WEEK-SCHEDULE (ALL) FAN_WSB_D ..
HT68_WSB_W =WEEK-SCHEDULE (ALL) HT68_WSB_D ..
MOA_.25_W =WEEK-SCHEDULE (ALL) MOA_.25_D ..

FULL_ON =SCHEDULE THRU DEC 31 W_FULL ..
$ AHU1 HEAT SCHEDULE
AHU1_ONH =SCHEDULE THRU DEC 31 AHU1_WK ..
$ AHU2 HEAT SCHED
AHU2_ONH =SCHEDULE THRU APR 15 AHU2_WK
THRU OCT 1 W OFF
THRU DEC 31 AHU2_WK ..
$ HEAT SCHEDULE
HEAT_SCED =SCHEDULE THRU APR 15 W_FULL
THRU OCT 1 W_OFF
THRU DEC 31 W_FULL ..

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* 404 * $ SUPPLY CFM RATIO
* 405 * AHU3W_CFM =SCHEDULE THRU MAY 15 AHU3W_CFMW
* 406 * THRU OCT 1 W_FULL
* 407 * THRU DEC 31 AHU3W_CFMW ..
* 408 *
* 409 * $ AHU2_COOL SCHED
* 410 * AHU2_C- =SCHEDULE THRU DEC 31 AHU2_WK ..
* 411 *
* 412 * HEAT_68 =SCHEDULE THRU DEC 31 HEAT_68_W ..
* 413 *
* 414 * HEAT_40 =SCHEDULE THRU DEC 31 HEAT_40_W ..
* 415 *
* 416 * HEAT_55 =SCHEDULE THRU DEC 31 HEAT_55_W ..
* 417 *
* 418 * $ CFM RATIO
* 419 * AHU4_CFM =SCHEDULE THRU MAY 15 AHU4W_CFMW
* 420 * THRU OCT 1 W_FULL
* 421 * THRU DEC 31 AHU4W_CFMW ..
* 422 *
* 423 * $ AHU2 & AHU5 CFM RATIOS
* 424 * AHU2&5_CFM =SCHEDULE THRU MAY 15 AHU5W_CFMW
* 425 * THRU OCT 1 W_FULL
* 426 * THRU DEC 31 AHU5W_CFMW ..
* 427 *
* 428 * $ AHU2_OA SCHEDULE
* 429 * AHU2_OA =SCHEDULE THRU MAY 15 AHU2W_OA_W
* 430 * THRU OCT 1 W_FULL
* 431 * THRU DEC 31 AHU2W_OA_W ..
* 432 *
* 433 * $ VENTILATION SCHED
* 434 * COOL_ON =SCHEDULE THRU MAY 15 W_OFF
* 435 * THRU OCT 1 W_FULL
* 436 * THRU DEC 31 W_OFF ..
* 437 *
* 438 * COOL_TEMP =SCHEDULE THRU DEC 31 85_W ..
* 439 *
* 440 * FULL_OFF =SCHEDULE THRU DEC 31 W_OFF ..
* 441 *
* 442 * FAN_W_SB =SCHEDULE THRU DEC 31 FAN_WSB_W ..
* 443 *
* 444 * HT_68_W_SB =SCHEDULE THRU DEC 31 HT68_WSB_W ..
* 445 *
* 446 * $ FORCED VENTILATION
* 447 * MOA_.25_FV =SCHEDULE THRU DEC 31 MOA_.25_W ..
* 448 *
* 449 *
* 450 *
* 451 * $ ZONE DESCRIPTION
* 452 *
* 453 * FOODPREP =ZONE DESIGN-HEAT-T = 68.0 DESIGN-COOL-T = 80.0
* 454 * HEAT-TEMP-SCH = HT_68_W_SB ZONE-TYPE = CONDITIONED
* 455 * THERMOSTAT-TYPE = PROPORTIONAL
* 456 * BASEBOARD-CTRL = THERMOSTATIC
* 457 * BASEBOARD-RATING = -39050. ASSIGNED-CFM = 5265.
* 458 * OUTSIDE-AIR-CFM = 1333. SIZING-OPTION = FROM-LOADS
* 459 * MIN-CFM-RATIO = 1.0 EXHAUST-CFM = 1333.0
* 460 * EXHAUST-STATIC = 0.9 ..
* 461 *
* 462 * SHORTORDER =ZONE DESIGN-HEAT-T = 68.0 DESIGN-COOL-T = 80.0
* 463 * HEAT-TEMP-SCH = HT_68_W_SB ZONE-TYPE = CONDITIONED
* 464 * THERMOSTAT-TYPE = PROPORTIONAL
* 465 * BASEBOARD-CTRL = THERMOSTATIC
* 466 * BASEBOARD-RATING = -5500. ASSIGNED-CFM = 4670.
* 467 * OUTSIDE-AIR-CFM = 4670. SIZING-OPTION = FROM-LOADS
* 468 * MIN-CFM-RATIO = 1.0 MIN-CFM-SCH = AHU3W_CFM
* 469 * EXHAUST-CFM = 4670.0 EXHAUST-STATIC = 0.9 ..
* 470 *
* 471 * DINING =ZONE DESIGN-HEAT-T = 68.0 DESIGN-COOL-T = 80.0
* 472 * HEAT-TEMP-SCH = HT_68_W_SB ZONE-TYPE = CONDITIONED
* 473 * THERMOSTAT-TYPE = PROPORTIONAL ASSIGNED-CFM = 7430.
* 474 * OUTSIDE-AIR-CFM = 360. SIZING-OPTION = FROM-LOADS
* 475 * MIN-CFM-RATIO = 1.0 MIN-CFM-SCH = AHU3W_CFM
* 476 * EXHAUST-CFM = 360.0 EXHAUST-STATIC = 0.9 ..
* 477 *
* 478 * WAREWASH =ZONE DESIGN-HEAT-T = 68.0 DESIGN-COOL-T = 80.0
* 479 * HEAT-TEMP-SCH = HT_68_W_SB ZONE-TYPE = CONDITIONED
* 480 * THERMOSTAT-TYPE = PROPORTIONAL
* 481 * BASEBOARD-CTRL = THERMOSTATIC
* 482 * BASEBOARD-RATING = -8100. ASSIGNED-CFM = 3145.
* 483 * OUTSIDE-AIR-CFM = 3145. SIZING-OPTION = FROM-LOADS
* 484 * MIN-CFM-RATIO = 1.0 MIN-CFM-SCH = AHU2&5_CFM
* 485 * EXHAUST-CFM = 3145.0 EXHAUST-STATIC = 0.9 ..
* 486 *
* 487 * FOODPREP_B =ZONE DESIGN-HEAT-T = 68.0 DESIGN-COOL-T = 85.0
* 488 * HEAT-TEMP-SCH = HT_68_W_SB ZONE-TYPE = CONDITIONED
* 489 * THERMOSTAT-TYPE = PROPORTIONAL
* 490 * BASEBOARD-CTRL = THERMOSTATIC ASSIGNED-CFM = 1600.
* 491 * OUTSIDE-AIR-CFM = 1600. SIZING-OPTION = FROM-LOADS
* 492 * MIN-CFM-RATIO = 1.0 EXHAUST-CFM = 1600.0
* 493 * EXHAUST-STATIC = 0.9 HEATING-CAPACITY = -48384.0 ..
* 494 *
* 495 * FDPREPHOOD =ZONE DESIGN-HEAT-T = 40.0 DESIGN-COOL-T = 85.0
* 496 * HEAT-TEMP-SCH = HEAT_40 ZONE-TYPE = CONDITIONED
* 497 * THERMOSTAT-TYPE = PROPORTIONAL ASSIGNED-CFM = 6400.
* 498 * OUTSIDE-AIR-CFM = 6400. SIZING-OPTION = FROM-LOADS
* 499 * MIN-CFM-RATIO = 1.0 EXHAUST-CFM = 6400.0
* 500 * EXHAUST-STATIC = 2.0 ..
* 501 *
* 502 *
* 503 * $ SYSTEM DESCRIPTION
* 504 *
* 505 * AHU_3 =SYSTEM SYSTEM-TYPE = SZRH
* 506 * MAX-SUPPLY-T = 120.0 MIN-SUPPLY-T = 57.0
* 507 * COOLING-SCHEDULE = FULL_OFF HEAT-SET-T = 120.0
* 508 * PREHEAT-T = 41.2 MAX-HUMIDITY = 55.0
* 509 * MIN-HUMIDITY = 35.0 ECONO-LIMIT-T = 65.0
* 510 * ECONO-LOW-LIMIT = 55.0 SUPPLY-CFM = 4670.
* 511 * RATED-CFM = 4670. MIN-OUTSIDE-AIR = 1.0

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* 512 *      FAN-SCHEDULE = FAN_W_SB SUPPLY-DELTA-T = 2.4
* 513 *      SUPPLY-KW = 0.0002
* 514 *      MOTOR-PLACEMENT = OUTSIDE-AIRFLOW
* 515 *      NIGHT-CYCLE-CTRL = CYCLE-ON-ANY
* 516 *      RETURN-STATIC = 0.53 RETURN-EFF = 0.97
* 517 *      NIGHT-VENT-DT = 0.0 MIN-CFM-RATIO = 1.0
* 518 *      HEATING-CAPACITY = -396650. FURNACE-AUX = 0.
* 519 *      FURNACE-HIR = 1.0 PREHEAT-SOURCE = HOT-WATER
* 520 *      RETURN-AIR-PATH = DUCT
* 521 *      ZONE-NAMES = (SHORTORDER) ..
* 522 *
* 523 * AHU_4      =SYSTEM  SYSTEM-TYPE = SZRH
* 524 *      MAX-SUPPLY-T = 120.0 MIN-SUPPLY-T = 57.0
* 525 *      COOLING-SCHEDULE = FULL OFF HEAT-SET-T = 100.0
* 526 *      PREHEAT-T = 41.2 MAX-HUMIDITY = 65.0
* 527 *      MIN-HUMIDITY = 35.0 ECONO-LIMIT-T = 65.0
* 528 *      ECONO-LOW-LIMIT = 55.0 SUPPLY-CFM = 7430.
* 529 *      RETURN-CFM = 7070. RATED-CFM = 7430.
* 530 *      MIN-OUTSIDE-AIR = 0.05 FAN-SCHEDULE = FAN_W_SB
* 531 *      SUPPLY-DELTA-T = 2.4 SUPPLY-KW = 0.00025
* 532 *      MOTOR-PLACEMENT = OUTSIDE-AIRFLOW
* 533 *      NIGHT-CYCLE-CTRL = CYCLE-ON-ANY
* 534 *      RETURN-STATIC = 0.95 RETURN-EFF = 0.97
* 535 *      NIGHT-VENT-DT = 0.0 MIN-CFM-RATIO = 1.0
* 536 *      HEATING-CAPACITY = -256775. FURNACE-AUX = 0.
* 537 *      FURNACE-HIR = 1.0 PREHEAT-SOURCE = HOT-WATER
* 538 *      RETURN-AIR-PATH = DUCT
* 539 *      ZONE-NAMES = (DINING) ..
* 540 *
* 541 * AHU_1      =SYSTEM  SYSTEM-TYPE = SZRH
* 542 *      MAX-SUPPLY-T = 120.0 MIN-SUPPLY-T = 45.0
* 543 *      COOLING-SCHEDULE = FULL OFF HEAT-SET-T = 120.0
* 544 *      PREHEAT-T = 40.0 MAX-HUMIDITY = 55.0
* 545 *      MIN-HUMIDITY = 35.0 ECONO-LIMIT-T = 65.0
* 546 *      ECONO-LOW-LIMIT = 55.0 SUPPLY-CFM = 1600.
* 547 *      RATED-CFM = 1600. MIN-OUTSIDE-AIR = 1.0
* 548 *      FAN-SCHEDULE = FAN_W_SB SUPPLY-DELTA-T = 2.4
* 549 *      SUPPLY-KW = 0.00065
* 550 *      MOTOR-PLACEMENT = OUTSIDE-AIRFLOW
* 551 *      NIGHT-CYCLE-CTRL = CYCLE-ON-ANY NIGHT-VENT-DT = 0.0
* 552 *      MIN-CFM-RATIO = 1.0 REHEAT-DELTA-T = 32.
* 553 *      COOL-FT-MIN = 0. HEATING-CAPACITY = -81216.
* 554 *      FURNACE-AUX = 0. FURNACE-HIR = 1.0
* 555 *      PREHEAT-SOURCE = HOT-WATER RETURN-AIR-PATH = DUCT
* 556 *      ZONE-NAMES = (FOODPREP_B) ..
* 557 *
* 558 * AHU_5      =SYSTEM  SYSTEM-TYPE = SZRH
* 559 *      MAX-SUPPLY-T = 120.0 MIN-SUPPLY-T = 57.0
* 560 *      COOLING-SCHEDULE = FULL OFF HEAT-SET-T = 100.0
* 561 *      PREHEAT-T = 41.2 MAX-HUMIDITY = 65.0
* 562 *      MIN-HUMIDITY = 35.0 ECONO-LIMIT-T = 65.0
* 563 *      ECONO-LOW-LIMIT = 55.0 SUPPLY-CFM = 3145.
* 564 *      RATED-CFM = 3145. MIN-OUTSIDE-AIR = 1.0
* 565 *      FAN-SCHEDULE = FAN_W_SB SUPPLY-DELTA-T = 2.4
* 566 *      SUPPLY-KW = 0.00053
* 567 *      MOTOR-PLACEMENT = OUTSIDE-AIRFLOW
* 568 *      NIGHT-CYCLE-CTRL = CYCLE-ON-ANY
* 569 *      RETURN-STATIC = 1.38 RETURN-EFF = 0.97
* 570 *      NIGHT-VENT-DT = 0.0 MIN-CFM-RATIO = 1.0
* 571 *      HEATING-CAPACITY = -263764. FURNACE-AUX = 0.
* 572 *      FURNACE-HIR = 1.0 PREHEAT-SOURCE = HOT-WATER
* 573 *      RETURN-AIR-PATH = DUCT
* 574 *      ZONE-NAMES = (WAREWASH) ..
* 575 *
* 576 * AHU_2      =SYSTEM  SYSTEM-TYPE = SZRH
* 577 *      MAX-SUPPLY-T = 120.0 MIN-SUPPLY-T = 57.0
* 578 *      COOLING-SCHEDULE = FULL OFF HEAT-SET-T = 120.0
* 579 *      PREHEAT-T = 41.2 MAX-HUMIDITY = 55.0
* 580 *      MIN-HUMIDITY = 35.0 ECONO-LIMIT-T = 65.0
* 581 *      ECONO-LOW-LIMIT = 55.0 SUPPLY-CFM = 5265.
* 582 *      RETURN-CFM = 3932. RATED-CFM = 5265.
* 583 *      MIN-OUTSIDE-AIR = 0.25 MIN-AIR-SCH = MOA_.25_FV
* 584 *      FAN-SCHEDULE = FAN_W_SB SUPPLY-DELTA-T = 2.4
* 585 *      SUPPLY-KW = 0.00021
* 586 *      MOTOR-PLACEMENT = OUTSIDE-AIRFLOW
* 587 *      NIGHT-CYCLE-CTRL = CYCLE-ON-ANY NIGHT-VENT-DT = 0.0
* 588 *      MIN-CFM-RATIO = 1.0 COOL-FT-MIN = 0.
* 589 *      HEATING-CAPACITY = -150857. FURNACE-AUX = 0.
* 590 *      FURNACE-HIR = 1.0 PREHEAT-SOURCE = HOT-WATER
* 591 *      RETURN-AIR-PATH = DUCT
* 592 *      ZONE-NAMES = (FOODPREP) ..
* 593 *
* 594 * AHU_1B     =SYSTEM  SYSTEM-TYPE = SZRH
* 595 *      MAX-SUPPLY-T = 120.0 MIN-SUPPLY-T = 45.0
* 596 *      PREHEAT-T = 40.0 MIN-HUMIDITY = 30.0
* 597 *      ECONO-LIMIT-T = 65.0 ECONO-LOW-LIMIT = 55.0
* 598 *      SUPPLY-CFM = 6400. RATED-CFM = 6400.
* 599 *      MIN-OUTSIDE-AIR = 1.0 FAN-SCHEDULE = FAN_W_SB
* 600 *      SUPPLY-DELTA-T = 2.4 SUPPLY-KW = 0.00065
* 601 *      NIGHT-CYCLE-CTRL = STAY-OFF NIGHT-VENT-DT = 0.0
* 602 *      MIN-CFM-RATIO = 1.0 HEATING-CAPACITY = -324864.
* 603 *      FURNACE-AUX = 0. PREHEAT-SOURCE = HOT-WATER
* 604 *      ZONE-NAMES = (FDPREPHOOD) ..
* 605 *
* 606 *
* 607 *      $ HOURLY REPORT DESCRIPTION
* 608 *
* 609 * SYST1      =REPORT-BLOCK VARIABLE-TYPE = FOODPREP
* 610 *      VARIABLE-LIST = (6) ..
* 611 * SYST2      =REPORT-BLOCK VARIABLE-TYPE = SHORTORDER
* 612 *      VARIABLE-LIST = (6) ..
* 613 * SYST3      =REPORT-BLOCK VARIABLE-TYPE = DINING
* 614 *      VARIABLE-LIST = (6) ..
* 615 * SYST4      =REPORT-BLOCK VARIABLE-TYPE = WAREWASH
* 616 *      VARIABLE-LIST = (6) ..
* 617 * SYST5      =REPORT-BLOCK VARIABLE-TYPE = FOODPREP_B
* 618 *      VARIABLE-LIST = (6) ..
* 619 * REP1      = HOURLY-REPORT REPORT-SCHEDULE = FULL_ON

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* 620 *          REPORT-BLOCK = (SYST1,SYST2,SYST3,SYST4,SYST5)
* 621 *          ..
* 622 *          END ..
* 623 *          COMPUTE SYSTEMS ..
* 624 *
* 625 *          INPUT PLANT ..
```

PDL PROCESSOR INPUT DATA

3/18/1995 9:41:47 PDL RUN 1

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* 626 *
* 627 *
* 628 *          $-----$
* 629 *          $EZ - DOE PLANTS INPUT$
* 630 *          $-----$
* 631 *
* 632 *          $ GENERAL PROJECT DATA
* 633 *
* 634 * TITLE LINE-1 * EMC ENGINEERS INC. *
* 635 * LINE-2 *EZDOB - ELITE SOFTWARE DEVELOPMENT INC*
* 636 * LINE-3 * DENVER, CO 80227 *
* 637 *
* 638 * LINE-4 *BUILDING 10550, ENL PERS DINING *
* 639 * LINE-5 *SETBACK, DDC, AND FORCED VENTILATION * ..
* 640 *
* 641 * ABORT ERRORS ..
* 642 * DIAGNOSTIC WARNINGS ..
* 643 * PLANT-REPORT VERIFICATION=(PV-A)
* 644 * SUMMARY=(PS-A,PS-B,PS-D,PS-H,PS-I,BEPS) ..
* 645 *
* 646 *          $ SCHEDULES
* 647 *
* 648 * DAY_ON =DAY-SCHEDULE (1,7) (0.)
* 649 *          (8,18) (1.)
* 650 *          (19,24) (0.) ..
* 651 *
* 652 *
* 653 * FULL_ON =WEEK-SCHEDULE (ALL) DAY_ON ..
* 654 *
* 655 *
* 656 * $ heating plant schedule
* 657 * heating =SCHEDULE THRU DEC 31 FULL_ON ..
* 658 *
* 659 *
* 660 *
* 661 *          $ EQUIPMENT DESCRIPTION
* 662 *
* 663 * HEAT-EXGR =PLANT-EQUIPMENT TYPE = HTANK-STORAGE
* 664 *          SIZE = 1.5 ..
* 665 *
* 666 * PLANT-PARAMETERS BOILER-FUEL = NATURAL-GAS MAKEUP-WTR-T = 50.
* 667 * STM-BOILER-HIR = 0.76 HW-BOILER-HIR = 1.27
* 668 * CHILLER-CONTROL = STANDBY OPEN-REC-COND-TYPE = AIR
* 669 * HERM-REC-COND-TYPE = AIR COMP-TO-TWR-WTR = 2.77
* 670 * CCIRC-HEAD = 100.0 HCIRC-HEAD = 50.0 ..
* 671 *
* 672 *
* 673 * PART-LOAD-RATIO TYPE = HW-BOILER
* 674 * MIN-RATIO = 0.2500 MAX-RATIO = 1.0000
* 675 * OPERATING-RATIO = 1.0000 ELEC-INPUT-RATIO = 0.0220 ..
* 676 *
* 677 * ENERGY-RESOURCE RESOURCE = ELECTRICITY ..
* 678 * ENERGY-RESOURCE RESOURCE = STEAM SOURCE-SITE-EFF = 1.000 ..
* 679 *
* 680 * ENERGY-STORAGE HEAT-STORE-RATE = 1.51 HEAT-SUPPLY-RATE = 1.51
* 681 * HTANK-BASE-T = 144.0 HTANK-T-RANGE = 15.6
* 682 * HEAT-STORE-SCH = heating ..
* 683 *
* 684 * HEAT-RECOVERY
* 685 * SUPPLY-1 = (HTANK-STORAGE)
* 686 * DEMAND-1 = (SPACE-HEAT,PROCESS-HEAT) ..
* 687 *
* 688 *
* 689 *
* 690 * END ..
* 691 * COMPUTE PLANT ..
* 692 * STOP ..

```

ENERGY TYPE IN SITE MBTU-	STEAM	ELECTRICITY	NATURAL-GAS
CATEGORY OF USE			
SPACE HEAT	2,582.52	0.00	0.00
SPACE COOL	0.00	0.00	0.00
HVAC AUX	0.00	330.10	0.00
DOM HOT WTR	1,977.94	0.00	0.00
AUX SOLAR	0.00	0.00	0.00
LIGHTS	0.00	165.18	0.00
VERT TRANS	0.00	0.00	0.00
MISC EQUIP	0.00	798.25	1,042.82
	-----	-----	-----
TOTAL	4,560.46	1,293.53	1,042.82

TOTAL SITE ENERGY 6896.97 MBTU 443.2 KBTU/SQFT-YR GROSS-AREA 467.4 KBTU/SQFT-YR NET-AREA  
 TOTAL SOURCE ENERGY 9487.98 MBTU 609.8 KBTU/SQFT-YR GROSS-AREA 642.9 KBTU/SQFT-YR NET-AREA

PERCENT OF HOURS ANY SYSTEM ZONE OUTSIDE OF THROTTLING RANGE = 1.1  
 PERCENT OF HOURS ANY PLANT LOAD NOT SATISFIED = 0.0

NOTE ELECTRICITY AND/OR FUEL USED TO GENERATE ELECTRICITY IS APPORTIONED BASED  
 ON THE YEARLY DEMAND. ALL OTHER ENERGY TYPES ARE APPORTIONED HOURLY.



MO	UTILITY-	STEAM	ELECTRICITY	NATURAL-GAS
JAN	TOTAL (MBTU)	717.507	110.509	88.576
	PEAK (KBTU)	2124.280	336.279	119.053
	DY/HR	26/ 7	31/16	31/24
FEB	TOTAL (MBTU)	567.324	99.794	80.004
	PEAK (KBTU)	1775.472	336.279	119.053
	DY/HR	5/ 5	28/16	28/24
MAR	TOTAL (MBTU)	561.132	110.486	88.576
	PEAK (KBTU)	1896.761	336.279	119.053
	DY/HR	9/ 5	31/16	31/24
APR	TOTAL (MBTU)	357.201	106.899	85.718
	PEAK (KBTU)	1349.891	336.279	119.053
	DY/HR	1/ 4	30/16	30/ 1
MAY	TOTAL (MBTU)	267.432	109.927	88.576
	PEAK (KBTU)	986.379	336.279	119.053
	DY/HR	17/ 4	28/16	31/ 1
JUN	TOTAL (MBTU)	184.175	105.378	85.718
	PEAK (KBTU)	643.381	336.279	119.053
	DY/HR	8/ 5	21/16	30/ 1
JUL	TOTAL (MBTU)	175.264	108.232	88.576
	PEAK (KBTU)	543.663	336.279	119.053
	DY/HR	25/ 4	31/16	31/ 1
AUG	TOTAL (MBTU)	182.985	108.674	88.576
	PEAK (KBTU)	558.390	336.279	119.053
	DY/HR	22/ 5	30/16	31/ 1
SEP	TOTAL (MBTU)	217.620	105.897	85.718
	PEAK (KBTU)	914.212	336.279	119.053
	DY/HR	24/ 4	29/16	30/ 1
OCT	TOTAL (MBTU)	305.370	110.358	88.576
	PEAK (KBTU)	1077.653	336.279	119.053
	DY/HR	21/ 6	31/16	31/24
NOV	TOTAL (MBTU)	423.085	106.922	85.718
	PEAK (KBTU)	1489.983	336.279	119.053
	DY/HR	28/ 4	30/16	30/24
DEC	TOTAL (MBTU)	601.406	110.486	88.576
	PEAK (KBTU)	1851.589	336.279	119.053
	DY/HR	31/ 4	31/16	31/24
ONE YEAR		4560.502	1293.561	1042.905
USE/PEAK		2124.280	336.279	119.053

**COMPUTER SIMULATIONS**

BUILDING 10630

**COMPUTER SIMULATIONS**  
BUILDING 10630

BASE RUN

# LDL PROCESSOR INPUT DATA

3/20/1995 9:29:50 LDL RUN 1

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* 3 *
* 4 *
* 5 *      $-----$
* 6 *      $EZ-DOE LOADS INPUT$
* 7 *      $-----$
* 8 *
* 9 *      $ GENERAL PROJECT DATA
* 10 *
* 11 * TITLE LINE-1 * EMC ENGINEERS INC. *
* 12 * LINE-2 *EZDOE - ELITE SOFTWARE DEVELOPMENT INC*
* 13 * LINE-3 * DENVER, CO 80227 *
* 14 *
* 15 * LINE-4 *BUILDING 10630, BN HQ BLDG *
* 16 * LINE-5 *BASE MODEL * ..
* 17 *
* 18 * ABORT ERRORS ..
* 19 * DIAGNOSTIC WARNINGS ..
* 20 * LOADS-REPORT VERIFICATION=(LV-A)
* 21 * SUMMARY=(LS-C,LS-D,LS-K,LS-L) ..
* 22 * BUILDING-LOCATION LATITUDE = 44.0
* 23 * ALTITUDE = 655.
* 24 * AZIMUTH = -40.
* 25 * GROSS-AREA = 11544
* 26 * HOLIDAY = NO
* 27 * SHIELDING-COEF = 0.19
* 28 * X-REF = 0.0
* 29 * Y-REF = 0.0 ..
* 30 * RUN-PERIOD JAN 1 1994 THRU DEC 31 1994 ..
* 31 *
* 32 *
* 33 *      $ SCHEDULES
* 34 *
* 35 * FULL_OND =DAY-SCHEDULE (1,24) (1.) ..
* 36 *
* 37 * FULL_OFFD =DAY-SCHEDULE (1,24) (0.) ..
* 38 *
* 39 * PEOPLE_D =DAY-SCHEDULE (1,6) (0.)
* 40 * (7,10) (1.)
* 41 * (11,13) (0.8,0.4,0.8)
* 42 * (14,16) (1.)
* 43 * (17,21) (0.1)
* 44 * (22,24) (0.) ..
* 45 *
* 46 * EQUIP_D =DAY-SCHEDULE (1,6) (0.1)

```

\* 47 \* (7,10) (0.7)  
 \* 48 \* (11,13) (0.5,0.4,0.5)  
 \* 49 \* (14,16) (0.7)  
 \* 50 \* (17,19) (0.3)  
 \* 51 \* (20,24) (0.1) ..  
 \* 52 \*  
 \* 53 \* LIGHT\_OND =DAY-SCHEDULE (1,24) (1.) ..  
 \* 54 \*  
 \* 55 \*  
 \* 56 \* FULL\_ONW =WEEK-SCHEDULE (ALL) FULL\_OND ..  
 \* 57 \*  
 \* 58 \* FULL\_OFFW =WEEK-SCHEDULE (ALL) FULL\_OFFD ..  
 \* 59 \*  
 \* 60 \* LIGHT\_ONW =WEEK-SCHEDULE (WD) LIGHT\_OND  
 \* 61 \* (WEH) FULL\_OFFD ..  
 \* 62 \*  
 \* 63 \* PEOPLE\_W =WEEK-SCHEDULE (WD) PEOPLE\_D  
 \* 64 \* (WEH) FULL\_OFFD ..  
 \* 65 \*  
 \* 66 \* EQUIP\_W =WEEK-SCHEDULE (WD) EQUIP\_D  
 \* 67 \* (WEH) FULL\_OFFD ..  
 \* 68 \*  
 \* 69 \*  
 \* 70 \* \$ FULL ON SCHEDULE  
 \* 71 \* FULL\_ONY =SCHEDULE THRU DEC 31 FULL\_ONW ..  
 \* 72 \*  
 \* 73 \* \$ FULL OFF SCHEDULE  
 \* 74 \* FULL\_OFFY =SCHEDULE THRU DEC 31 FULL\_OFFW ..  
 \* 75 \*  
 \* 76 \* \$ LIGHT SCHEDULE  
 \* 77 \* LIGHT\_ONY =SCHEDULE THRU DEC 31 LIGHT\_ONW ..  
 \* 78 \*  
 \* 79 \* \$ OCCUPANCY SCHEDULE  
 \* 80 \* PEOPLE\_Y =SCHEDULE THRU DEC 31 PEOPLE\_W ..  
 \* 81 \*  
 \* 82 \* \$ EQUIPMENT SCHEDULE  
 \* 83 \* EQUIP\_Y =SCHEDULE THRU DEC 31 EQUIP\_W ..  
 \* 84 \*  
 \* 85 \* \$ SUMMER VENTIL. SCHED.  
 \* 86 \* VENTIL\_Y =SCHEDULE THRU MAY 15 FULL\_OFFW  
 \* 87 \* THRU OCT 1 FULL\_ONW  
 \* 88 \* THRU DEC 31 FULL\_OFFW ..  
 \* 89 \*  
 \* 90 \* \$ PERIM. RAD. SCHEDULE  
 \* 91 \* RAD\_ON =SCHEDULE THRU MAY 1 FULL\_ONW  
 \* 92 \* THRU OCT 31 FULL\_OFFW  
 \* 93 \* THRU DEC 31 FULL\_ONW ..  
 \* 94 \*  
 \* 95 \*  
 \* 96 \*  
 \* 97 \* \$ CONSTRUCTION TYPES

```

* 98 *
* 99 *
* 100 *
* 101 *
* 102 * $ WALL BETWEEN MER AND INTERIOR
* 103 * INWALL =CONSTRUCTION LAYERS = ASHI-18 ..
* 104 * DOORCON =CONSTRUCTION U-VALUE = 1.000 ..
* 105 * ROOFCON =CONSTRUCTION U-VALUE = 0.050 ..
* 106 * EXWALL =CONSTRUCTION U-VALUE = 0.200 ..
* 107 * FLOORCON =CONSTRUCTION U-VALUE = 0.100 ..
* 108 *
* 109 * $ NO PHYS BOUNDARY BETWEEN SPACES
* 110 * AIRWALL =CONSTRUCTION U-VALUE = 20.000 ..
* 111 *
* 112 * SKYLIGHT =GLASS-TYPE GLASS-TYPE-CODE = 5
* 113 *         PANES = 2
* 114 *         GLASS-CONDUCTANCE = 0.490 ..
* 115 * WNDW =GLASS-TYPE GLASS-TYPE-CODE = 4
* 116 *         PANES = 1
* 117 *         GLASS-CONDUCTANCE = 1.130 ..
* 118 * DOORGLSS =GLASS-TYPE GLASS-TYPE-CODE = 3
* 119 *         PANES = 1
* 120 *         GLASS-CONDUCTANCE = 1.130 ..
* 121 *
* 122 *
* 123 *
* 124 *
* 125 *         $ SPACE DESCRIPTION
* 126 *
* 127 * MAINAREA_A =SPACE AREA = 5595.0 VOLUME = 50355.0
* 128 *         AZIMUTH = 315 ZONE-TYPE = CONDITIONED
* 129 *         PEOPLE-SCHEDULE = PEOPLE_Y NUMBER-OF-PEOPLE = 40.0
* 130 *         PEOPLE-HEAT-GAIN = 480.0
* 131 *         LIGHTING-TYPE = REC-FLUOR-RV LIGHTING-KW = 13.24
* 132 *         LIGHTING-SCHEDULE = LIGHT_ONLY
* 133 *         EQUIP-SCHEDULE = EQUIP_Y EQUIPMENT-KW = 1.0
* 134 *         SOURCE-SENSIBLE = 0.0 INF-METHOD = AIR-CHANGE
* 135 *         AIR-CHANGES/HR = 1.75 INF-SCHEDULE = FULL_ONLY ..
* 136 *
* 137 *         E-W HEIGHT = 9.0 WIDTH = 42.0 CONS = EXWALL
* 138 *         AZIMUTH = 45 ..
* 139 *
* 140 *         WINDOW HEIGHT = 8.0 WIDTH = 3.0 G-T = DOORGLSS ..
* 141 *
* 142 *         DOOR HEIGHT = 8.0 WIDTH = 6.0 CONS = DOORCON ..
* 143 *
* 144 *         WINDOW HEIGHT = 6.0 WIDTH = 3.0 G-T = WNDW ..
* 145 *
* 146 *         E-W HEIGHT = 9.0 WIDTH = 61.0 CONS = EXWALL
* 147 *         AZIMUTH = 135 ..
* 148 *

```

\* 149 \* WINDOW HEIGHT = 6.0 WIDTH = 5.0 G-T = WNDW  
 \* 150 \* MULTIPLIER = 5.0 ..  
 \* 151 \*  
 \* 152 \* E-W HEIGHT = 9.0 WIDTH = 52.5 CONS = EXWALL  
 \* 153 \* AZIMUTH = 45 ..  
 \* 154 \*  
 \* 155 \* WINDOW HEIGHT = 8.0 WIDTH = 6.0 G-T = DOORGLSS ..  
 \* 156 \*  
 \* 157 \* DOOR HEIGHT = 8.0 WIDTH = 6.0 CONS = DOORCON ..  
 \* 158 \*  
 \* 159 \* WINDOW HEIGHT = 6.0 WIDTH = 3.0 G-T = WNDW  
 \* 160 \* MULTIPLIER = 3.0 ..  
 \* 161 \*  
 \* 162 \* E-W HEIGHT = 12.0 WIDTH = 60.0 CONS = EXWALL  
 \* 163 \* AZIMUTH = 135 ..  
 \* 164 \*  
 \* 165 \* DOOR HEIGHT = 8.0 WIDTH = 6.0 CONS = DOORCON  
 \* 166 \* MULTIPLIER = 2.0 ..  
 \* 167 \*  
 \* 168 \* E-W HEIGHT = 9.0 WIDTH = 79.0 CONS = EXWALL  
 \* 169 \* AZIMUTH = 225 ..  
 \* 170 \*  
 \* 171 \* DOOR HEIGHT = 8.0 WIDTH = 6.0 CONS = DOORCON ..  
 \* 172 \*  
 \* 173 \* WINDOW HEIGHT = 6.0 WIDTH = 3.0 G-T = WNDW  
 \* 174 \* MULTIPLIER = 3.0 ..  
 \* 175 \*  
 \* 176 \* E-W HEIGHT = 9.0 WIDTH = 36.0 CONS = EXWALL  
 \* 177 \* AZIMUTH = 135 ..  
 \* 178 \*  
 \* 179 \* WINDOW HEIGHT = 6.0 WIDTH = 3.0 G-T = WNDW ..  
 \* 180 \*  
 \* 181 \* E-W HEIGHT = 9.0 WIDTH = 42.0 CONS = EXWALL  
 \* 182 \* AZIMUTH = 225 ..  
 \* 183 \*  
 \* 184 \* DOOR HEIGHT = 8.0 WIDTH = 3.0 CONS = DOORCON ..  
 \* 185 \*  
 \* 186 \* WINDOW HEIGHT = 6.0 WIDTH = 3.0 G-T = WNDW  
 \* 187 \* MULTIPLIER = 4.0 ..  
 \* 188 \*  
 \* 189 \* E-W HEIGHT = 9.0 WIDTH = 162.0 CONS = EXWALL  
 \* 190 \* AZIMUTH = 315 ..  
 \* 191 \*  
 \* 192 \* WINDOW HEIGHT = 8.0 WIDTH = 6.0 G-T = DOORGLSS ..  
 \* 193 \*  
 \* 194 \* WINDOW HEIGHT = 6.0 WIDTH = 3.0 G-T = WNDW  
 \* 195 \* MULTIPLIER = 17.0 ..  
 \* 196 \*  
 \* 197 \* I-W HEIGHT = 9.0 WIDTH = 64.5 CONS = INWALL  
 \* 198 \* AZIMUTH = 45 NEXT-TO = MECH\_ROOM ..  
 \* 199 \*

\* 200 \* ROOF HEIGHT = 79.0 WIDTH = 30.0 CONS = ROOFCON  
 \* 201 \* AZIMUTH = 45 TILT = 40 ..  
 \* 202 \*  
 \* 203 \* WINDOW HEIGHT = 12.0 WIDTH = 3.0 G-T = SKYLIGHT ..  
 \* 204 \*  
 \* 205 \* ROOF HEIGHT = 79.0 WIDTH = 30.0 CONS = ROOFCON  
 \* 206 \* AZIMUTH = 225 TILT = 40 ..  
 \* 207 \*  
 \* 208 \* WINDOW HEIGHT = 12.0 WIDTH = 3.0 G-T = SKYLIGHT ..  
 \* 209 \*  
 \* 210 \* ROOF HEIGHT = 21.0 WIDTH = 162.0 CONS = ROOFCON  
 \* 211 \* AZIMUTH = 135 TILT = 40 ..  
 \* 212 \*  
 \* 213 \* ROOF HEIGHT = 21.0 WIDTH = 162.0 CONS = ROOFCON  
 \* 214 \* AZIMUTH = 315 TILT = 40 ..  
 \* 215 \*  
 \* 216 \*  
 \* 217 \* MECH\_ROOM =SPACE AREA = 354.0 VOLUME = 4248.0  
 \* 218 \* AZIMUTH = 315 TEMPERATURE = (55.)  
 \* 219 \* ZONE-TYPE = CONDITIONED PEOPLE-SCHEDULE = FULL\_OFFY  
 \* 220 \* AREA/PERSON = 100.0 LIGHTING-SCHEDULE = FULL\_OFFY  
 \* 221 \* EQUIP-SCHEDULE = FULL\_OFFY EQUIPMENT-KW = 0.37  
 \* 222 \* EQUIP-SENSIBLE = 0.03 SOURCE-SENSIBLE = 0.0  
 \* 223 \* INF-METHOD = AIR-CHANGE AIR-CHANGES/HR = 0.1  
 \* 224 \* INF-SCHEDULE = FULL\_ONY ..  
 \* 225 \*  
 \* 226 \* E-W HEIGHT = 12.0 WIDTH = 26.5 CONS = EXWALL  
 \* 227 \* AZIMUTH = 45 ..  
 \* 228 \*  
 \* 229 \* DOOR HEIGHT = 8.0 WIDTH = 6.0 CONS = DOORCON ..  
 \* 230 \*  
 \* 231 \* I-W HEIGHT = 9.0 WIDTH = 64.5 CONS = INWALL  
 \* 232 \* AZIMUTH = 45 NEXT-TO = MAINAREA\_A ..  
 \* 233 \*  
 \* 234 \*  
 \* 235 \* MAINAREA\_B =SPACE AREA = 5595.0 VOLUME = 50355.0  
 \* 236 \* AZIMUTH = 315 ZONE-TYPE = CONDITIONED  
 \* 237 \* AREA/PERSON = 100.0 FLOOR-WEIGHT = 0.1  
 \* 238 \* INF-METHOD = AIR-CHANGE AIR-CHANGES/HR = 1.75  
 \* 239 \* INF-SCHEDULE = FULL\_ONY ..  
 \* 240 \*  
 \* 241 \* I-W HEIGHT = 9.0 WIDTH = 162.0 CONS = AIRWALL  
 \* 242 \* AZIMUTH = 315 NEXT-TO = MAINAREA\_A ..  
 \* 243 \*  
 \* 244 \*  
 \* 245 \* END ..  
 \* 246 \* COMPUTE LOADS ..  
 \* 247 \*  
 \* 248 \* INPUT SYSTEMS ..

SDL PROCESSOR INPUT DATA



```

* 249 *
* 250 *
* 251 *      $-----$
* 252 *      $EZ-DOE SYSTEMS INPUT$
* 253 *      $-----$
* 254 *
* 255 *          $ GENERAL PROJECT DATA
* 256 *
* 257 * TITLE LINE-1 * EMC ENGINEERS INC. *
* 258 * LINE-2 *EZDOE - ELITE SOFTWARE DEVELOPMENT INC*
* 259 * LINE-3 * DENVER, CO 80227 *
* 260 *
* 261 * LINE-4 *BUILDING 10630, BN HQ BLDG *
* 262 * LINE-5 *THIS IS A TEST *..
* 263 * ABORT ERRORS ..
* 264 * DIAGNOSTIC WARNINGS ..
* 265 * SYSTEMS-REPORT VERIFICATION=(SV-A)
* 266 * SUMMARY=(SS-A,SS-B,SS-C,SS-D,SS-E,SS-F,SS-G,
* 267 * SS-H,SS-I,SS-J,SS-K,SS-L,SS-M,SS-N,
* 268 * SS-O) ..
* 269 *
* 270 *          $ SCHEDULES
* 271 *
* 272 * FULL_OND =DAY-SCHEDULE (1,24) (1.) ..
* 273 * FULL_OFFD =DAY-SCHEDULE (1,24) (0.) ..
* 274 * HIGH_HT_D =DAY-SCHEDULE (1,24) (74.) ..
* 275 * LOW_HT_D =DAY-SCHEDULE (1,24) (55.) ..
* 276 * BASEBOARD D =DAY-SCHEDULE (1,24) (74.) ..
* 277 * 75_D =DAY-SCHEDULE (1,24) (75.) ..
* 278 * 50%FAN_D =DAY-SCHEDULE (1,5) (0.,1.,0.,1.,0.)
* 279 * (6,10) (1.,0.,1.,0.,1.)
* 280 * (11,15) (0.,1.,0.,1.,0.)
* 281 * (16,20) (1.,0.,1.,0.,1.)
* 282 * (21,24) (0.,1.,0.,1.) ..
* 283 *
* 284 * FULL_ONW =WEEK-SCHEDULE (ALL) FULL_OND ..
* 285 *
* 286 * FULL_OFFW =WEEK-SCHEDULE (ALL) FULL_OFFD ..
* 287 *
* 288 * HIGH_HT_W =WEEK-SCHEDULE (ALL) HIGH_HT_D ..
* 289 *
* 290 * LOW_HT_W =WEEK-SCHEDULE (ALL) LOW_HT_D ..
* 291 *
* 292 * BASEBOARDW =WEEK-SCHEDULE (ALL) BASEBOARD D ..
* 293 *

```

\* 294 \* 75\_W =WEEK-SCHEDULE (ALL) 75\_D ..  
 \* 295 \*  
 \* 296 \* 50%FAN =WEEK-SCHEDULE (ALL) 50%FAN\_D ..  
 \* 297 \*  
 \* 298 \*  
 \* 299 \* \$ FULL ON SCHEDULE  
 \* 300 \* FULL\_ONY =SCHEDULE THRU DEC 31 FULL\_ONW ..  
 \* 301 \*  
 \* 302 \* \$ FULL OFF SCHEDULE  
 \* 303 \* FULL\_OFFY =SCHEDULE THRU DEC 31 FULL\_OFFW ..  
 \* 304 \*  
 \* 305 \* \$ AHU1 HEATING SCHEDULE  
 \* 306 \* HIGH\_HT =SCHEDULE THRU DEC 31 HIGH\_HT\_W ..  
 \* 307 \*  
 \* 308 \* \$ AHU2 HEAT SCHEDULE  
 \* 309 \* LOW\_HT =SCHEDULE THRU DEC 31 LOW\_HT\_W ..  
 \* 310 \*  
 \* 311 \* \$ THIS SCHED IS NOT USED  
 \* 312 \* BBOARDSCHD =SCHEDULE THRU DEC 31 BASEBOARDW ..  
 \* 313 \*  
 \* 314 \* SF\_1\_ON =SCHEDULE THRU JUN 1 FULL\_OFFW  
 \* 315 \* THRU JUN 25 50%FAN  
 \* 316 \* THRU JUL 15 FULL\_ONW  
 \* 317 \* THRU SEP 15 50%FAN  
 \* 318 \* THRU DEC 31 FULL\_OFFW ..  
 \* 319 \*  
 \* 320 \* 75\_Y =SCHEDULE THRU MAY 15 FULL\_OFFW  
 \* 321 \* THRU OCT 1 75\_W  
 \* 322 \* THRU DEC 31 FULL\_OFFW ..  
 \* 323 \*  
 \* 324 \*  
 \* 325 \*  
 \* 326 \* \$ ZONE DESCRIPTION  
 \* 327 \*  
 \* 328 \* MAINAREA\_A =ZONE DESIGN-HEAT-T = 70.0 DESIGN-COOL-T = 75.0  
 \* 329 \* HEAT-TEMP-SCH = HIGH\_HT ZONE-TYPE = CONDITIONED  
 \* 330 \* THERMOSTAT-TYPE = PROPORTIONAL  
 \* 331 \* BASEBOARD-CTRL = THERMOSTATIC  
 \* 332 \* BASEBOARD-RATING = -253615. ASSIGNED-CFM = 1230.  
 \* 333 \* OUTSIDE-AIR-CFM = 1230. SIZING-OPTION = FROM-LOADS  
 \* 334 \* RATED-CFM = 10.0 MIN-CFM-RATIO = 1.0  
 \* 335 \* EXHAUST-CFM = 10.0 HEATING-CAPACITY = -99630.0 ..  
 \* 336 \*  
 \* 337 \* MECH\_ROOM =ZONE DESIGN-HEAT-T = 55.0 DESIGN-COOL-T = 90.0  
 \* 338 \* HEAT-TEMP-SCH = LOW\_HT ZONE-TYPE = CONDITIONED  
 \* 339 \* THERMOSTAT-TYPE = PROPORTIONAL  
 \* 340 \* BASEBOARD-CTRL = THERMOSTATIC  
 \* 341 \* BASEBOARD-RATING = -8500. ASSIGNED-CFM = 210.  
 \* 342 \* SIZING-OPTION = FROM-LOADS RATED-CFM = 210.0  
 \* 343 \* HEATING-CAPACITY = -3500.0 ..  
 \* 344 \*

```

* 345 * MAINAREA_B =ZONE  DESIGN-HEAT-T = 55.0 DESIGN-COOL-T = 75.0
* 346 *      ZONE-TYPE = CONDITIONED
* 347 *      THERMOSTAT-TYPE = PROPORTIONAL ASSIGNED-CFM = 7025.
* 348 *      OUTSIDE-AIR-CFM = 7025. SIZING-OPTION = FROM-LOADS ..
* 349 *
* 350 *
* 351 *      $ SYSTEM DESCRIPTION
* 352 *
* 353 * AHU_1  =SYSTEM  SYSTEM-TYPE = HVSYS
* 354 *      MAX-SUPPLY-T = 135.0 HEATING-SCHEDULE = HIGH_HT
* 355 *      MIN-HUMIDITY = 30.0 ECONO-LIMIT-T = 65.0
* 356 *      ECONO-LOW-LIMIT = 55.0 SUPPLY-CFM = 1230.
* 357 *      RATED-CFM = 1230. MIN-OUTSIDE-AIR = 1.0
* 358 *      FAN-SCHEDULE = FULL_ONY SUPPLY-DELTA-T = 2.4
* 359 *      SUPPLY-KW = 0.00078
* 360 *      MOTOR-PLACEMENT = OUTSIDE-AIRFLOW
* 361 *      NIGHT-CYCLE-CTRL = STAY-OFF NIGHT-VENT-DT = 0.0
* 362 *      HEATING-CAPACITY = -99630. FURNACE-AUX = 0.
* 363 *      RETURN-AIR-PATH = DUCT
* 364 *      ZONE-NAMES = (MAINAREA_A) ..
* 365 *
* 366 * AHU_2  =SYSTEM  SYSTEM-TYPE = SZRH
* 367 *      MAX-SUPPLY-T = 160.0 MIN-SUPPLY-T = 55.0
* 368 *      HEATING-SCHEDULE = LOW_HT HEAT-SET-T = 160.0
* 369 *      PREHEAT-T = 40.0 MAX-HUMIDITY = 65.0
* 370 *      MIN-HUMIDITY = 35.0 ECONO-LIMIT-T = 65.0
* 371 *      ECONO-LOW-LIMIT = 55.0 SUPPLY-CFM = 210.
* 372 *      RETURN-CFM = 210. RATED-CFM = 210.
* 373 *      MIN-AIR-SCH = FULL_OFFY FAN-SCHEDULE = FULL_ONY
* 374 *      SUPPLY-DELTA-T = 2.4 SUPPLY-KW = 0.00078
* 375 *      NIGHT-CYCLE-CTRL = STAY-OFF NIGHT-VENT-DT = 0.0
* 376 *      MIN-CFM-RATIO = 1.0 HEATING-CAPACITY = -3500.
* 377 *      FURNACE-AUX = 0.
* 378 *      ZONE-NAMES = (MECH_ROOM) ..
* 379 *
* 380 * SF_1&2  =SYSTEM  SYSTEM-TYPE = SZRH
* 381 *      MAX-SUPPLY-T = 135.0 MIN-SUPPLY-T = 55.0
* 382 *      HEATING-SCHEDULE = FULL_OFFY MIN-HUMIDITY = 30.0
* 383 *      ECONO-LIMIT-T = 65.0 ECONO-LOW-LIMIT = 55.0
* 384 *      SUPPLY-CFM = 7025. RATED-CFM = 7025.
* 385 *      MIN-OUTSIDE-AIR = 1.0 FAN-SCHEDULE = SF_1_ON
* 386 *      SUPPLY-DELTA-T = 2.4 SUPPLY-KW = 0.00218
* 387 *      NIGHT-CYCLE-CTRL = STAY-OFF NIGHT-VENT-DT = 0.0
* 388 *      MIN-CFM-RATIO = 0.5 FURNACE-AUX = 0.
* 389 *      ZONE-NAMES = (MAINAREA_B) ..
* 390 *
* 391 *
* 392 *      $ HOURLY REPORT DESCRIPTION
* 393 *
* 394 * SYST1  =REPORT-BLOCK VARIABLE-TYPE = SF_1&2
* 395 *      VARIABLE-LIST = (17,32) ..

```

```

* 396 * SYST2   =REPORT-BLOCK VARIABLE-TYPE = MAINAREA_B
* 397 *          VARIABLE-LIST = (6) ..
* 398 * REP1    = HOURLY-REPORT REPORT-SCHEDULE = FULL_ONY
* 399 *          REPORT-BLOCK = (SYST1,SYST2)
* 400 * ..
* 401 * END ..
* 402 * COMPUTE SYSTEMS ..
* 403 *
* 404 * INPUT PLANT ..

```

# PDL PROCESSOR INPUT DATA

3/20/1995 9:29:50 PDL RUN 1

```

* 405 *
* 406 *
* 407 *          $-----$
* 408 *          $EZ-DOE PLANTS INPUT$
* 409 *          $-----$
* 410 *
* 411 *          $ GENERAL PROJECT DATA
* 412 *
* 413 * TITLE LINE-1 * EMC ENGINEERS INC. *
* 414 * LINE-2 *EZDOE - ELITE SOFTWARE DEVELOPMENT INC*
* 415 * LINE-3 * DENVER, CO 80227 *
* 416 *
* 417 * LINE-4 *BUILDING 10630, BN HQ BLDG *
* 418 * LINE-5 *THIS IS A TEST * ..
* 419 *
* 420 * ABORT      ERRORS ..
* 421 * DIAGNOSTIC  WARNINGS ..
* 422 * PLANT-REPORT SUMMARY=(PS-A,PS-B,BEPS)
* 423 * ..
* 424 *
* 425 *          $ SCHEDULES
* 426 *
* 427 * HE_D      =DAY-SCHEDULE (1,24) (1.) ..
* 428 *
* 429 * FULL_OFFD =DAY-SCHEDULE (1,24) (0.) ..
* 430 *
* 431 *
* 432 * HE_W      =WEEK-SCHEDULE (ALL) HE_D ..
* 433 *
* 434 * FULL_OFFW =WEEK-SCHEDULE (ALL) FULL_OFFD ..
* 435 *
* 436 *
* 437 * $ HEAT EXCHANGER SCHED
* 438 * HE_SCHED  =SCHEDULE THRU MAY 15 HE_W

```

```

* 439 *          THRU OCT 1 FULL_OFFW
* 440 *          THRU DEC 31 HE_W ..
* 441 *
* 442 *
* 443 *
* 444 *          $ EQUIPMENT DESCRIPTION
* 445 *
* 446 * HE      =PLANT-EQUIPMENT TYPE = HTANK-STORAGE
* 447 *          SIZE = 0.4 ..
* 448 *
* 449 * PLANT-PARAMETERS   BOILER-FUEL = COAL MAKEUP-WTR-T = 200.
* 450 *          STM-BOILER-HIR = 1.0 ..
* 451 *
* 452 *
* 453 * ENERGY-RESOURCE   RESOURCE = ELECTRICITY ..
* 454 * ENERGY-RESOURCE   RESOURCE = STEAM SOURCE-SITE-EFF = 1.000 ..
* 455 *
* 456 * ENERGY-STORAGE   HEAT-STORE-RATE = 371.9 HEAT-SUPPLY-RATE = 371.9
* 457 *          HTANK-BASE-T = 190.0 HEAT-STORE-SCH = HE_SCHED
* 458 *          HTANK-ENV-T = 60.0 ..
* 459 *
* 460 * HEAT-RECOVERY
* 461 *          SUPPLY-1 = (HTANK-STORAGE)
* 462 *          DEMAND-1 = (SPACE-HEAT) ..
* 463 *
* 464 * LOADHE1 =LOAD-ASSIGNMENT TYPE = HEATING
* 465 *          OPERATION-MODE = RUN-ALL
* 466 *
* 467 *          LOAD-RANGE = 1.000
* 468 *          PLANT-EQUIPMENT = HE
* 469 *          NUMBER = 1 ..
* 470 *
* 471 *
* 472 *
* 473 * END ..
* 474 * COMPUTE PLANT ..
* 475 * STOP ..

```

ENERGY TYPE IN SITE MBTU-	STEAM	ELECTRICITY	RECOVERED
CATEGORY OF USE			
SPACE HEAT	1428.99	0.00	0.00
SPACE COOL	0.00	0.00	0.00
HVAC AUX	0.00	124.74	0.00
DOM HOT WTR	0.00	0.00	0.00
AUX SOLAR	0.00	0.00	0.00
LIGHTS	0.00	281.96	0.00
VERT TRANS	0.00	0.00	0.00
MISC EQUIP	0.00	7.37	0.00
	-----	-----	-----
TOTAL	1428.99	414.06	0.00

TOTAL SITE ENERGY 1843.07 MBTU 159.7 KBTU/SQFT-YR GROSS-AREA 159.7 KBTU/SQFT-YR NET-AREA  
 TOTAL SOURCE ENERGY 2672.47 MBTU 231.5 KBTU/SQFT-YR GROSS-AREA 231.5 KBTU/SQFT-YR NET-AREA

PERCENT OF HOURS ANY SYSTEM ZONE OUTSIDE OF THROTTLING RANGE = 14.2  
 PERCENT OF HOURS ANY PLANT LOAD NOT SATISFIED = 0.0

NOTE ELECTRICITY AND/OR FUEL USED TO GENERATE ELECTRICITY IS APPORTIONED BASED  
 ON THE YEARLY DEMAND. ALL OTHER ENERGY TYPES ARE APPORTIONED HOURLY.

MO	UTILITY- STEAM	ELECTRICITY
JAN	TOTAL(MBTU)	266.76
	PEAK(KBTU)	53.016
	DY/HR	31/16
FEB	TOTAL(MBTU)	204.406
	PEAK(KBTU)	53.016
	DY/HR	28/16
MAR	TOTAL(MBTU)	213.573
	PEAK(KBTU)	53.016
	DY/HR	31/16
APR	TOTAL(MBTU)	113.192
	PEAK(KBTU)	53.016
	DY/HR	29/16
MAY	TOTAL(MBTU)	64.611
	PEAK(KBTU)	53.016
	DY/HR	31/9
JUN	TOTAL(MBTU)	23.091
	PEAK(KBTU)	105.306
	DY/HR	30/8
JUL	TOTAL(MBTU)	20.911
	PEAK(KBTU)	105.306
	DY/HR	28/8
AUG	TOTAL(MBTU)	22.198
	PEAK(KBTU)	105.306
	DY/HR	31/10
SEP	TOTAL(MBTU)	47.489
	PEAK(KBTU)	105.306
	DY/HR	15/16
OCT	TOTAL(MBTU)	89.413
	PEAK(KBTU)	53.016
	DY/HR	31/16
NOV	TOTAL(MBTU)	145.247
	PEAK(KBTU)	53.016
	DY/HR	30/16

DEC	TOTAL(MBTU)	218.093	28.529
	PEAK(KBTU)	423.338	53.016
	DY/HR	3/ 4	30/16
	ONE YEAR	1428.984	414.082
	USE/PEAK	435.324	105.306



**COMPUTER SIMULATIONS**  
BUILDING 10630

RUN 1 - SCHEDULE START/STOP AND NIGHT SETBACK

LDL PROCESSOR INPUT DATA

4/18/1995 16: 1:38 LDL RUN 1

```

* 3 *
* 4 *
* 5 *
* 6 *      $-----$
* 7 *      $EZ - DOE LOADS INPUT$
* 8 *      $-----$
* 9 *
* 10 *      $ GENERAL PROJECT DATA
* 11 * TITLE LINE-1 * EMC ENGINEERS INC. *
* 12 * LINE-2 *EZDOE - ELITE SOFTWARE DEVELOPMENT INC*
* 13 * LINE-3 * DENVER, CO 80227 *
* 14 *
* 15 * LINE-4 *BUILDING 10630, BN HQ BLDG *
* 16 * LINE-5 *SETBACK, HEATING TO 74F * ..
* 17 *
* 18 * ABORT ERRORS ..
* 19 * DIAGNOSTIC WARNINGS ..
* 20 * LOADS-REPORT VERIFICATION=(LV-A)
* 21 * SUMMARY=(LS-C,LS-D,LS-K,LS-L) ..
* 22 * BUILDING-LOCATION LATITUDE = 44.0
* 23 * ALTITUDE = 655.
* 24 * AZIMUTH = -40.
* 25 * GROSS-AREA = 11544
* 26 * HOLIDAY = NO
* 27 * SHIELDING-COEF = 0.19
* 28 * X-REF = 0.0
* 29 * Y-REF = 0.0 ..
* 30 * RUN-PERIOD JAN 1 1994 THRU DEC 31 1994 ..
* 31 *
* 32 *
* 33 *      $ SCHEDULES
* 34 *
* 35 * FULL_OND =DAY-SCHEDULE (1,24) (1.) ..
* 36 *
* 37 * FULL_OFFD =DAY-SCHEDULE (1,24) (0.) ..
* 38 *
* 39 * PEOPLE_D =DAY-SCHEDULE (1,6) (0.)
* 40 * (7,10) (1.)
* 41 * (11,13) (0.8,0.4,0.8)
* 42 * (14,16) (1.)
* 43 * (17,21) (0.1)
* 44 * (22,24) (0.) ..
* 45 *
* 46 * EQUIP_D =DAY-SCHEDULE (1,6) (0.1)
* 47 * (7,10) (0.7)
* 48 * (11,13) (0.5,0.4,0.5)
* 49 * (14,16) (0.7)
* 50 * (17,19) (0.3)
* 51 * (20,24) (0.1) ..
* 52 *
* 53 * LIGHT_OND =DAY-SCHEDULE (1,24) (1.) ..
* 54 *
* 55 *
* 56 * FULL_ONW =WEEK-SCHEDULE (ALL) FULL_OND ..
* 57 *
* 58 * FULL_OFFW =WEEK-SCHEDULE (ALL) FULL_OFFD ..
* 59 *
* 60 * LIGHT_ONW =WEEK-SCHEDULE (WD) LIGHT_OND
* 61 * (WEH) FULL_OFFD ..
* 62 *
* 63 * PEOPLE_W =WEEK-SCHEDULE (WD) PEOPLE_D
* 64 * (WEH) FULL_OFFD ..
* 65 *
* 66 * EQUIP_W =WEEK-SCHEDULE (WD) EQUIP_D
* 67 * (WEH) FULL_OFFD ..
* 68 *
* 69 *
* 70 * $ FULL ON SCHEDULE
* 71 * FULL_ONY =SCHEDULE THRU DEC 31 FULL_ONW ..
* 72 *
* 73 * $ FULL OFF SCHEDULE
* 74 * FULL_OFFY =SCHEDULE THRU DEC 31 FULL_OFFW ..
* 75 *
* 76 * $ LIGHT SCHEDULE
* 77 * LIGHT_ONY =SCHEDULE THRU DEC 31 LIGHT_ONW ..
* 78 *
* 79 * $ OCCUPANCY SCHEDULE
* 80 * PEOPLE_Y =SCHEDULE THRU DEC 31 PEOPLE_W ..
* 81 *
* 82 * $ EQUIPMENT SCHEDULE
* 83 * EQUIP_Y =SCHEDULE THRU DEC 31 EQUIP_W ..
* 84 *
* 85 * $ SUMMER VENTIL. SCHED.
* 86 * VENTIL_Y =SCHEDULE THRU MAY 15 FULL_OFFW
* 87 * THRU OCT 1 FULL_ONW
* 88 * THRU DEC 31 FULL_OFFW ..
* 89 *
* 90 * $ PERIM. RAD. SCHEDULE
* 91 * RAD_ON =SCHEDULE THRU MAY 1 FULL_ONW
* 92 * THRU OCT 31 FULL_OFFW
* 93 * THRU DEC 31 FULL_ONW ..
* 94 *
* 95 *
* 96 *
* 97 *      $ CONSTRUCTION TYPES
* 98 *
* 99 *
* 100 *
* 101 *
* 102 * $ WALL BETWEEN MER AND INTERIOR

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* 103 * INWALL =CONSTRUCTION LAYERS = ASHI-18 ..
* 104 * DOORCON =CONSTRUCTION U-VALUE = 1.000 ..
* 105 * ROOFCON =CONSTRUCTION U-VALUE = 0.050 ..
* 106 * EXWALL =CONSTRUCTION U-VALUE = 0.200 ..
* 107 * FLOORCON =CONSTRUCTION U-VALUE = 0.100 ..
* 108 *
* 109 * $ NO PHYS BOUNDARY BETWEEN SPACES
* 110 * AIRWALL =CONSTRUCTION U-VALUE = 20.000 ..
* 111 *
* 112 * SKYLIGHT =GLASS-TYPE GLASS-TYPE-CODE = 5
* 113 * PANES = 2
* 114 * GLASS-CONDUCTANCE = 0.490 ..
* 115 * WNDW =GLASS-TYPE GLASS-TYPE-CODE = 4
* 116 * PANES = 1
* 117 * GLASS-CONDUCTANCE = 1.130 ..
* 118 * DOORGLSS =GLASS-TYPE GLASS-TYPE-CODE = 3
* 119 * PANES = 1
* 120 * GLASS-CONDUCTANCE = 1.130 ..
* 121 *
* 122 *
* 123 *
* 124 *
* 125 * $ SPACE DESCRIPTION
* 126 *
* 127 * MAINAREA_A =SPACE AREA = 5595.0 VOLUME = 50355.0
* 128 * AZIMUTH = 315 ZONE-TYPE = CONDITIONED
* 129 * PEOPLE-SCHEDULE = PEOPLE_Y NUMBER-OF-PEOPLE = 40.0
* 130 * PEOPLE-HEAT-GAIN = 480.0
* 131 * LIGHTING-TYPE = REC-FLUOR-RV LIGHTING-KW = 13.24
* 132 * LIGHTING-SCHEDULE = LIGHT_ONY
* 133 * EQUIP-SCHEDULE = EQUIP_Y EQUIPMENT-KW = 1.0
* 134 * SOURCE-SENSIBLE = 0.0 INF-METHOD = AIR-CHANGE
* 135 * AIR-CHANGES/HR = 1.75 INF-SCHEDULE = FULL_ONY ..
* 136 *
* 137 * E-W HEIGHT = 9.0 WIDTH = 42.0 CONS = EXWALL
* 138 * AZIMUTH = 45 ..
* 139 *
* 140 * WINDOW HEIGHT = 8.0 WIDTH = 3.0 G-T = DOORGLSS ..
* 141 *
* 142 * DOOR HEIGHT = 8.0 WIDTH = 6.0 CONS = DOORCON ..
* 143 *
* 144 * WINDOW HEIGHT = 6.0 WIDTH = 3.0 G-T = WNDW ..
* 145 *
* 146 * E-W HEIGHT = 9.0 WIDTH = 61.0 CONS = EXWALL
* 147 * AZIMUTH = 135 ..
* 148 *
* 149 * WINDOW HEIGHT = 6.0 WIDTH = 5.0 G-T = WNDW
* 150 * MULTIPLIER = 5.0 ..
* 151 *
* 152 * E-W HEIGHT = 9.0 WIDTH = 52.5 CONS = EXWALL
* 153 * AZIMUTH = 45 ..
* 154 *
* 155 * WINDOW HEIGHT = 8.0 WIDTH = 6.0 G-T = DOORGLSS ..
* 156 *
* 157 * DOOR HEIGHT = 8.0 WIDTH = 6.0 CONS = DOORCON ..
* 158 *
* 159 * WINDOW HEIGHT = 6.0 WIDTH = 3.0 G-T = WNDW
* 160 * MULTIPLIER = 3.0 ..
* 161 *
* 162 * E-W HEIGHT = 12.0 WIDTH = 60.0 CONS = EXWALL
* 163 * AZIMUTH = 135 ..
* 164 *
* 165 * DOOR HEIGHT = 8.0 WIDTH = 6.0 CONS = DOORCON
* 166 * MULTIPLIER = 2.0 ..
* 167 *
* 168 * E-W HEIGHT = 9.0 WIDTH = 79.0 CONS = EXWALL
* 169 * AZIMUTH = 225 ..
* 170 *
* 171 * DOOR HEIGHT = 8.0 WIDTH = 6.0 CONS = DOORCON ..
* 172 *
* 173 * WINDOW HEIGHT = 6.0 WIDTH = 3.0 G-T = WNDW
* 174 * MULTIPLIER = 3.0 ..
* 175 *
* 176 * E-W HEIGHT = 9.0 WIDTH = 36.0 CONS = EXWALL
* 177 * AZIMUTH = 135 ..
* 178 *
* 179 * WINDOW HEIGHT = 6.0 WIDTH = 3.0 G-T = WNDW ..
* 180 *
* 181 * E-W HEIGHT = 9.0 WIDTH = 42.0 CONS = EXWALL
* 182 * AZIMUTH = 225 ..
* 183 *
* 184 * DOOR HEIGHT = 8.0 WIDTH = 3.0 CONS = DOORCON ..
* 185 *
* 186 * WINDOW HEIGHT = 6.0 WIDTH = 3.0 G-T = WNDW
* 187 * MULTIPLIER = 4.0 ..
* 188 *
* 189 * E-W HEIGHT = 9.0 WIDTH = 162.0 CONS = EXWALL
* 190 * AZIMUTH = 315 ..
* 191 *
* 192 * WINDOW HEIGHT = 8.0 WIDTH = 6.0 G-T = DOORGLSS ..
* 193 *
* 194 * WINDOW HEIGHT = 6.0 WIDTH = 3.0 G-T = WNDW
* 195 * MULTIPLIER = 17.0 ..
* 196 *
* 197 * I-W HEIGHT = 9.0 WIDTH = 64.5 CONS = INWALL
* 198 * AZIMUTH = 45 NEXT-TO = MECH_ROOM ..
* 199 *
* 200 * ROOF HEIGHT = 79.0 WIDTH = 30.0 CONS = ROOFCON
* 201 * AZIMUTH = 45 TILT = 40 ..
* 202 *
* 203 * WINDOW HEIGHT = 12.0 WIDTH = 3.0 G-T = SKYLIGHT ..
* 204 *
* 205 * ROOF HEIGHT = 79.0 WIDTH = 30.0 CONS = ROOFCON
* 206 * AZIMUTH = 225 TILT = 40 ..
* 207 *
* 208 * WINDOW HEIGHT = 12.0 WIDTH = 3.0 G-T = SKYLIGHT ..
* 209 *
* 210 * ROOF HEIGHT = 21.0 WIDTH = 162.0 CONS = ROOFCON

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* 211 *           AZIMUTH = 135  TILT = 40  ..
* 212 *
* 213 *           ROOF      HEIGHT = 21.0  WIDTH = 162.0  CONS = ROOFCON
* 214 *           AZIMUTH = 315  TILT = 40  ..
* 215 *
* 216 *
* 217 * MECH_ROOM  =SPACE  AREA = 354.0  VOLUME = 4248.0
* 218 *           AZIMUTH = 315  TEMPERATURE = (55.)
* 219 *           ZONE-TYPE = CONDITIONED  PEOPLE-SCHEDULE = FULL OFFY
* 220 *           AREA/PERSON = 100.0  LIGHTING-SCHEDULE = FULL OFFY
* 221 *           EQUIP-SCHEDULE = FULL OFFY  EQUIPMENT-KW = 0.37
* 222 *           EQUIP-SENSIBLE = 0.03  SOURCE-SENSIBLE = 0.0
* 223 *           INF-METHOD = AIR-CHANGE  AIR-CHANGES/HR = 0.1
* 224 *           INF-SCHEDULE = FULL_ONY  ..
* 225 *
* 226 *           E-W      HEIGHT = 12.0  WIDTH = 26.5  CONS = EXWALL
* 227 *           AZIMUTH = 45  ..
* 228 *
* 229 *           DOOR     HEIGHT = 8.0  WIDTH = 6.0  CONS = DOORCON ..
* 230 *
* 231 *           I-W      HEIGHT = 9.0  WIDTH = 64.5  CONS = INWALL
* 232 *           AZIMUTH = 45  NEXT-TO = MAINAREA_A  ..
* 233 *
* 234 *
* 235 * MAINAREA_B =SPACE  AREA = 5595.0  VOLUME = 50355.0
* 236 *           AZIMUTH = 315  ZONE-TYPE = CONDITIONED
* 237 *           AREA/PERSON = 100.0  FLOOR-WEIGHT = 0.1
* 238 *           INF-METHOD = AIR-CHANGE  AIR-CHANGES/HR = 1.75
* 239 *           INF-SCHEDULE = FULL_ONY  ..
* 240 *
* 241 *           I-W      HEIGHT = 9.0  WIDTH = 162.0  CONS = AIRWALL
* 242 *           AZIMUTH = 315  NEXT-TO = MAINAREA_A  ..
* 243 *
* 244 *
* 245 * END  ..
* 246 * COMPUTE LOADS  ..
* 247 *
* 248 * INPUT SYSTEMS  ..

```

SDL PROCESSOR INPUT DATA

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* 249 *
* 250 *
* 251 *          $-----$
* 252 *          $EZ - DOE SYSTEMS INPUT$
* 253 *          $-----$
* 254 *
* 255 *          $ GENERAL PROJECT DATA
* 256 *
* 257 * TITLE LINE-1 * EMC ENGINEERS INC. *
* 258 * LINE-2 *EZDOE - ELITE SOFTWARE DEVELOPMENT INC*
* 259 * LINE-3 * DENVER, CO 80227 *
* 260 *
* 261 * LINE-4 *BUILDING 10630, BN HQ BLDG *
* 262 * LINE-5 *SETBACK, HEATING TO 74F * ..
* 263 * ABORT ERRORS
* 264 * DIAGNOSTIC WARNINGS ..
* 265 * SYSTEMS-REPORT VERIFICATION=(SV-A)
* 266 * SUMMARY=(SS-A,SS-B,SS-C,SS-D,SS-E,SS-F,SS-G,
* 267 * SS-H,SS-I,SS-J,SS-K,SS-L,SS-M,SS-N,
* 268 * SS-O) ..
* 269 *
* 270 *          $ SCHEDULES
* 271 *
* 272 * FULL_OND =DAY-SCHEDULE (1,24) (1.) ..
* 273 * FULL_OFFD =DAY-SCHEDULE (1,24) (0.) ..
* 274 * HIGH_HT_D =DAY-SCHEDULE (1,24) (70.) ..
* 275 * LOW_HT_D =DAY-SCHEDULE (1,24) (55.) ..
* 276 * BASEBOARD_D =DAY-SCHEDULE (1,24) (74.) ..
* 277 * 75_D =DAY-SCHEDULE (1,24) (75.) ..
* 278 * 50%FAN_D =DAY-SCHEDULE (1,5) (0.,1.,0.,1.,0.)
* 279 * (6,10) (1.,0.,1.,0.,1.)
* 280 * (11,15) (0.,1.,0.,1.,0.)
* 281 * (16,20) (1.,0.,1.,0.,1.)
* 282 * (21,24) (0.,1.,0.,1.) ..
* 283 * FAN_SB_D =DAY-SCHEDULE (1,4) (0.)
* 284 * (5,16) (1.)
* 285 * (17,24) (0.) ..
* 286 * 50%SF_SB_D =DAY-SCHEDULE (1,5) (0.)
* 287 * (6,10) (1.,0.,1.,0.,1.)
* 288 * (11,15) (0.,1.,0.,1.,0.)
* 289 * (16) (1.)
* 290 * (17,24) (0.) ..
* 291 * LW_HT_SB_D =DAY-SCHEDULE (1,24) (50.) ..
* 292 * HI_HT_SB_D =DAY-SCHEDULE (1,4) (50.)
* 293 * (5,16) (74.)
* 294 * (17,24) (50.) ..
* 295 *
* 296 * FULL_ONW =WEEK-SCHEDULE (ALL) FULL_OND ..
* 297 *
* 298 * FULL_OFFW =WEEK-SCHEDULE (ALL) FULL_OFFD ..
* 299 *
* 300 * HIGH_HT_W =WEEK-SCHEDULE (ALL) HIGH_HT_D ..
* 301 *
* 302 * LOW_HT_W =WEEK-SCHEDULE (ALL) LOW_HT_D ..
* 303 *
* 304 * BASEBOARDW =WEEK-SCHEDULE (ALL) BASEBOARD_D ..
* 305 *
* 306 * 75_W =WEEK-SCHEDULE (ALL) 75_D ..
* 307 *
* 308 * 50%FAN =WEEK-SCHEDULE (ALL) 50%FAN_D ..
* 309 *
* 310 * FAN_SB_W =WEEK-SCHEDULE (WD) FAN_SB_D
* 311 * (SAT) FULL_OFFD
* 312 * (SUN) FULL_OFFD
* 313 * (HOL) FAN_SB_D ..
* 314 *
* 315 * 50%SF_SB_W =WEEK-SCHEDULE (WD) 50%SF_SB_D
* 316 * (SAT) FULL_OFFD
* 317 * (SUN) FULL_OFFD
* 318 * (HOL) 50%SF_SB_D ..
* 319 *
* 320 * LW_HT_SB_W =WEEK-SCHEDULE (WD) LW_HT_SB_D
* 321 * (SAT) FULL_OFFD
* 322 * (SUN) FULL_OFFD
* 323 * (HOL) LW_HT_SB_D ..
* 324 *
* 325 * HI_HT_SB_W =WEEK-SCHEDULE (WD) HI_HT_SB_D
* 326 * (SAT) FULL_OFFD
* 327 * (SUN) FULL_OFFD
* 328 * (HOL) HI_HT_SB_D ..
* 329 *
* 330 *
* 331 * $ FULL ON SCHEDULE
* 332 * FULL_ONY =SCHEDULE THRU DEC 31 FULL_ONW ..
* 333 *
* 334 * $ FULL OFF SCHEDULE
* 335 * FULL_OFFY =SCHEDULE THRU DEC 31 FULL_OFFW ..
* 336 *
* 337 * $ AHU1 HEATING SCHEDULE
* 338 * HIGH_HT =SCHEDULE THRU DEC 31 HIGH_HT_W ..
* 339 *
* 340 * $ AHU2 HEAT SCHEDULE
* 341 * LOW_HT =SCHEDULE THRU DEC 31 LOW_HT_W ..
* 342 *
* 343 * $ THIS SCHED IS NOT USED
* 344 * BBOARDSDCHD =SCHEDULE THRU DEC 31 BASEBOARDW ..
* 345 *
* 346 * SF_1_ON =SCHEDULE THRU JUN 1 FULL_OFFW
* 347 * THRU JUN 25 50%FAN
* 348 * THRU JUL 15 FULL_ONW

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* 349 *          THRU SEP 15 50%FAN
* 350 *          THRU DEC 31 FULL_OFFW ..
* 351 *
* 352 * 75_Y      =SCHEDULE THRU MAY 15 FULL_OFFW
* 353 *          THRU OCT 1 75 W
* 354 *          THRU DEC 31 FULL_OFFW ..
* 355 *
* 356 * FAN_SB    =SCHEDULE THRU DEC 31 FAN_SB_W ..
* 357 *
* 358 * SF_W_SB   =SCHEDULE THRU JUN 1 FULL OFFW
* 359 *          THRU JUN 25 50%SF_SB_W
* 360 *          THRU JUL 15 FAN_SB_W
* 361 *          THRU SEP 15 50%SF_SB_W
* 362 *          THRU DEC 31 FULL_OFFW ..
* 363 *
* 364 * LOW_HT_WSB =SCHEDULE THRU DEC 31 LW_HT_SB_W ..
* 365 *
* 366 * $ AHU1 HEATING SETBACK
* 367 * HI_HT_SB   =SCHEDULE THRU DEC 31 HI_HT_SB_W ..
* 368 *
* 369 *
* 370 *
* 371 *          $ ZONE DESCRIPTION
* 372 *
* 373 * MAINAREA_A =ZONE  DESIGN-HEAT-T = 70.0 DESIGN-COOL-T = 75.0
* 374 *                  HEAT-TEMP-SCH = HI_HT_SB ZONE-TYPE = CONDITIONED
* 375 *                  THERMOSTAT-TYPE = PROPORTIONAL
* 376 *                  BASEBOARD-CTRL = THERMOSTATIC
* 377 *                  BASEBOARD-RATING = -253615. ASSIGNED-CFM = 1230.
* 378 *                  OUTSIDE-AIR-CFM = 1230. SIZING-OPTION = FROM-LOADS
* 379 *                  RATED-CFM = 10.0 MIN-CFM-RATIO = 1.0
* 380 *                  EXHAUST-CFM = 10.0 HEATING-CAPACITY = -99630.0 ..
* 381 *
* 382 * MECH_ROOM =ZONE  DESIGN-HEAT-T = 55.0 DESIGN-COOL-T = 90.0
* 383 *                  HEAT-TEMP-SCH = LOW_HT_WSB ZONE-TYPE = CONDITIONED
* 384 *                  THERMOSTAT-TYPE = PROPORTIONAL
* 385 *                  BASEBOARD-CTRL = THERMOSTATIC
* 386 *                  BASEBOARD-RATING = -8500. ASSIGNED-CFM = 210.
* 387 *                  SIZING-OPTION = FROM-LOADS RATED-CFM = 210.0
* 388 *                  HEATING-CAPACITY = -3500.0 ..
* 389 *
* 390 * MAINAREA_B =ZONE  DESIGN-HEAT-T = 55.0 DESIGN-COOL-T = 75.0
* 391 *                  ZONE-TYPE = CONDITIONED
* 392 *                  THERMOSTAT-TYPE = PROPORTIONAL ASSIGNED-CFM = 7025.
* 393 *                  OUTSIDE-AIR-CFM = 7025. SIZING-OPTION = FROM-LOADS ..
* 394 *
* 395 *
* 396 *          $ SYSTEM DESCRIPTION
* 397 *
* 398 * AHU_1      =SYSTEM  SYSTEM-TYPE = HVSYS
* 399 *                  MAX-SUPPLY-T = 135.0 MIN-HUMIDITY = 30.0
* 400 *                  ECONO-LIMIT-T = 65.0 ECONO-LOW-LIMIT = 55.0
* 401 *                  SUPPLY-CFM = 1230. RATED-CFM = 1230.
* 402 *                  MIN-OUTSIDE-AIR = 1.0 FAN-SCHEDULE = FAN_SB
* 403 *                  SUPPLY-DELTA-T = 2.4 SUPPLY-KW = 0.00078
* 404 *                  MOTOR-PLACEMENT = OUTSIDE-AIRFLOW
* 405 *                  NIGHT-CYCLE-CTRL = CYCLE-ON-ANY NIGHT-VENT-DT = 0.0
* 406 *                  HEATING-CAPACITY = -99630. FURNACE-AUX = 0.
* 407 *                  RETURN-AIR-PATH = DUCT
* 408 *                  ZONE-NAMES = (MAINAREA_A) ..
* 409 *
* 410 * AHU_2      =SYSTEM  SYSTEM-TYPE = SZRH
* 411 *                  MAX-SUPPLY-T = 160.0 MIN-SUPPLY-T = 55.0
* 412 *                  HEAT-SET-T = 160.0 PREHEAT-T = 40.0
* 413 *                  MAX-HUMIDITY = 65.0 MIN-HUMIDITY = 35.0
* 414 *                  ECONO-LIMIT-T = 65.0 ECONO-LOW-LIMIT = 55.0
* 415 *                  SUPPLY-CFM = 210. RETURN-CFM = 210.
* 416 *                  RATED-CFM = 210. MIN-AIR-SCH = FULL_OFFY
* 417 *                  FAN-SCHEDULE = FAN_SB SUPPLY-DELTA-T = 2.4
* 418 *                  SUPPLY-KW = 0.00078 NIGHT-CYCLE-CTRL = CYCLE-ON-ANY
* 419 *                  NIGHT-VENT-DT = 0.0 MIN-CFM-RATIO = 1.0
* 420 *                  HEATING-CAPACITY = -3500. FURNACE-AUX = 0.
* 421 *                  ZONE-NAMES = (MECH_ROOM) ..
* 422 *
* 423 * SF_1&2     =SYSTEM  SYSTEM-TYPE = SZRH
* 424 *                  MAX-SUPPLY-T = 135.0 MIN-SUPPLY-T = 55.0
* 425 *                  HEATING-SCHEDULE = FULL OFFY MIN-HUMIDITY = 30.0
* 426 *                  ECONO-LIMIT-T = 65.0 ECONO-LOW-LIMIT = 1.0
* 427 *                  SUPPLY-CFM = 7025. RATED-CFM = 7025.
* 428 *                  MIN-OUTSIDE-AIR = 1.0 FAN-SCHEDULE = SF_W_SB
* 429 *                  SUPPLY-DELTA-T = 2.4 SUPPLY-KW = 0.00218
* 430 *                  NIGHT-CYCLE-CTRL = CYCLE-ON-ANY NIGHT-VENT-DT = 0.0
* 431 *                  MIN-CFM-RATIO = 0.5 FURNACE-AUX = 0.
* 432 *                  ZONE-NAMES = (MAINAREA_B) ..
* 433 *
* 434 *
* 435 *          $ HOURLY REPORT DESCRIPTION
* 436 *
* 437 * SYST1      =REPORT-BLOCK VARIABLE-TYPE = SF_1&2
* 438 *                  VARIABLE-LIST = (17,32) ..
* 439 * SYST2      =REPORT-BLOCK VARIABLE-TYPE = MAINAREA_B
* 440 *                  VARIABLE-LIST = (6) ..
* 441 * REP1       = HOURLY-REPORT REPORT-SCHEDULE = FULL_ONY
* 442 *                  REPORT-BLOCK = (SYST1,SYST2)
* 443 *
* 444 * END
* 445 * COMPUTE SYSTEMS ..
* 446 *
* 447 * INPUT PLANT ..

```

PDL PROCESSOR INPUT DATA

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* 448 *
* 449 *
* 450 *
* 451 *          $-----$
* 452 *          $EZ - DOE PLANTS INPUT$
* 453 *          $-----$
* 454 *
* 455 *          $ GENERAL PROJECT DATA
* 456 *
* 456 * TITLE LINE-1 *      EMC      ENGINEERS      INC.      *
* 457 * LINE-2 *EZDOE - ELITE SOFTWARE DEVELOPMENT INC*
* 458 * LINE-3 *      DENVER,      CO      80227      *
* 459 *
* 460 * LINE-4 *BUILDING 10630, BN HQ BLDG      *
* 461 * LINE-5 *SETBACK, HEATING TO 74F      * ..
* 462 *
* 463 * ABORT      ERRORS ..
* 464 * DIAGNOSTIC      WARNINGS ..
* 465 * PLANT-REPORT      SUMMARY=(PS-A,PS-B,BEPS)
* 466 * ..
* 467 *
* 468 *          $ SCHEDULES
* 469 *
* 470 * HE_D      =DAY-SCHEDULE (1,24) (1.) ..
* 471 *
* 472 * FULL_OFFD =DAY-SCHEDULE (1,24) (0.) ..
* 473 *
* 474 *
* 475 * HE_W      =WEEK-SCHEDULE (ALL) HE_D ..
* 476 *
* 477 * FULL_OFFW =WEEK-SCHEDULE (ALL) FULL_OFFD ..
* 478 *
* 479 *
* 480 * $ HEAT EXCHANGER SCHED
* 481 * HE_SCHED =SCHEDULE THRU MAY 15 HE_W
* 482 * THRU OCT 1 FULL_OFFW
* 483 * THRU DEC 31 HE_W ..
* 484 *
* 485 *
* 486 *
* 487 *          $ EQUIPMENT DESCRIPTION
* 488 *
* 489 * HE      =PLANT-EQUIPMENT TYPE = HTANK-STORAGE
* 490 * SIZE = 0.4 ..
* 491 *
* 492 * PLANT-PARAMETERS      BOILER-FUEL = COAL MAKEUP-WTR-T = 200.
* 493 * STM-BOILER-HIR = 1.0 ..
* 494 *
* 495 *
* 496 * ENERGY-RESOURCE      RESOURCE = ELECTRICITY ..
* 497 * ENERGY-RESOURCE      RESOURCE = STEAM SOURCE-SITE-EFF = 1.000 ..
* 498 *
* 499 * ENERGY-STORAGE      HEAT-STORE-RATE = 371.9 HEAT-SUPPLY-RATE = 371.9
* 500 * HTANK-BASE-T = 190.0 HEAT-STORE-SCH = HE_SCHED
* 501 * HTANK-ENV-T = 60.0 ..
* 502 *
* 503 * HEAT-RECOVERY
* 504 * SUPPLY-1 = (HTANK-STORAGE)
* 505 * DEMAND-1 = (SPACE-HEAT) ..
* 506 *
* 507 * LOADHE1 =LOAD-ASSIGNMENT TYPE = HEATING
* 508 * OPERATION-MODE = RUN-ALL
* 509 *
* 510 * LOAD-RANGE = 1.000
* 511 * PLANT-EQUIPMENT = HE
* 512 * NUMBER = 1 ..
* 513 *
* 514 *
* 515 *
* 516 * END ..
* 517 * COMPUTE PLANT ..
* 518 * STOP ..

```

EMC ENGINEERS INC. EZDOE - ELITE SOFTWARE DEVELOPMENT INC DOE-2.1D 4/18/1995 16: 1:38 PDL RUN 1  
 DENVER, CO 80227 BUILDING 10630, BN HQ BLDG SETBACK, HEATING TO 74F  
 REPORT- PS-B MONTHLY PEAK AND TOTAL ENERGY USE WEATHER FILE- MASSENA, NY

MO	UTILITY-	STEAM	ELECTRICITY
	TOTAL (MBTU)	130.137	25.286
JAN	PEAK (KBTU)	418.938	52.956
	DY/HR	5/12	31/16
	TOTAL (MBTU)	91.284	23.757
FEB	PEAK (KBTU)	386.480	52.956
	DY/HR	4/12	28/16
	TOTAL (MBTU)	97.053	27.260
MAR	PEAK (KBTU)	397.079	52.956
	DY/HR	9/ 5	31/16
	TOTAL (MBTU)	54.082	24.742
APR	PEAK (KBTU)	350.231	52.956
	DY/HR	1/ 5	29/16
	TOTAL (MBTU)	28.878	25.845
MAY	PEAK (KBTU)	343.654	52.956
	DY/HR	2/14	31/ 9
	TOTAL (MBTU)	6.708	33.589
JUN	PEAK (KBTU)	213.548	105.246
	DY/HR	8/ 7	30/ 8
	TOTAL (MBTU)	3.802	34.501
JUL	PEAK (KBTU)	281.376	105.246
	DY/HR	25/ 5	28/16
	TOTAL (MBTU)	7.613	34.117
AUG	PEAK (KBTU)	247.539	105.246
	DY/HR	22/ 7	31/10
	TOTAL (MBTU)	21.457	29.266
SEP	PEAK (KBTU)	320.220	105.246
	DY/HR	23/ 6	15/16
	TOTAL (MBTU)	46.343	24.727
OCT	PEAK (KBTU)	347.899	52.956
	DY/HR	21/ 6	31/16
	TOTAL (MBTU)	69.542	25.983
NOV	PEAK (KBTU)	366.118	52.956
	DY/HR	29/ 6	30/16
	TOTAL (MBTU)	94.270	26.164
DEC	PEAK (KBTU)	388.885	52.956
	DY/HR	23/ 6	30/16
	ONE YEAR	651.169	335.235
	USE/PEAK	418.938	105.246



ENERGY TYPE IN SITE MBTU-	STEAM	ELECTRICITY
CATEGORY OF USE		
SPACE HEAT	651.17	0.00
SPACE COOL	0.00	0.00
HVAC AUX	0.00	45.89
DOM HOT WTR	0.00	0.00
AUX SOLAR	0.00	0.00
LIGHTS	0.00	281.96
VERT TRANS	0.00	0.00
MISC EQUIP	0.00	7.37
	-----	-----
TOTAL	651.17	335.22

TOTAL SITE ENERGY 986.40 MBTU 85.4 KBTU/SQFT-YR GROSS-AREA 85.4 KBTU/SQFT-YR NET-AREA  
 TOTAL SOURCE ENERGY 1657.88 MBTU 143.6 KBTU/SQFT-YR GROSS-AREA 143.6 KBTU/SQFT-YR NET-AREA

PERCENT OF HOURS ANY SYSTEM ZONE OUTSIDE OF THROTTLING RANGE = 40.5  
 PERCENT OF HOURS ANY PLANT LOAD NOT SATISFIED = 0.0

NOTE ELECTRICITY AND/OR FUEL USED TO GENERATE ELECTRICITY IS APPORTIONED BASED  
 ON THE YEARLY DEMAND. ALL OTHER ENERGY TYPES ARE APPORTIONED HOURLY.

EMC ENGINEERS INC. EZDOE - ELITE SOFTWARE DEVELOPMENT INC  
DENVER, CO 80227 BUILDING 10630, BN HQ BLDG  
REPORT- PS-B MONTHLY PEAK AND TOTAL ENERGY USE

DOE-2.1D 4/16/1995 16: 1:38 PDL RUN 1  
SETBACK, HEATING TO 74F  
WEATHER FILE- MASSENA, NY

MO	UTILITY-	STEAM	ELECTRICITY
	TOTAL (MBTU)	130.137	25.286
JAN	PEAK (KBTU)	418.938	52.956
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	DY/HR	4/12	28/16
	TOTAL (MBTU)	97.053	27.260
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	DY/HR	9/ 5	31/16
	TOTAL (MBTU)	54.082	24.742
APR	PEAK (KBTU)	350.231	52.956
	DY/HR	1/ 5	29/16
	TOTAL (MBTU)	28.878	25.845
MAY	PEAK (KBTU)	343.654	52.956
	DY/HR	2/14	31/ 9
	TOTAL (MBTU)	6.708	33.589
JUN	PEAK (KBTU)	213.548	105.246
	DY/HR	8/ 7	30/ 8
	TOTAL (MBTU)	3.802	34.501
JUL	PEAK (KBTU)	281.376	105.246
	DY/HR	25/ 5	28/16
	TOTAL (MBTU)	7.613	34.117
AUG	PEAK (KBTU)	247.539	105.246
	DY/HR	22/ 7	31/10
	TOTAL (MBTU)	21.457	29.266
SEP	PEAK (KBTU)	320.220	105.246
	DY/HR	23/ 6	15/16
	TOTAL (MBTU)	46.343	24.727
OCT	PEAK (KBTU)	347.899	52.956
	DY/HR	21/ 6	31/16
	TOTAL (MBTU)	69.542	25.983
NOV	PEAK (KBTU)	366.118	52.956
	DY/HR	29/ 6	30/16
	TOTAL (MBTU)	94.270	26.164
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	DY/HR	23/ 6	30/16
	ONE YEAR	651.169	335.235
	USE/PEAK	418.938	105.246

**COMPUTER SIMULATIONS**  
**BUILDING 10630**

RUN 3 - DDC

LDL PROCESSOR INPUT DATA

3/20/1995 9:33:33 LDL RUN 1

```

* 3 *
* 4 *
* 5 *
* 6 *          $-----$
* 7 *          $EZ - DOE LOADS INPUT $
* 8 *          $-----$
* 9 *
* 10 *          $ GENERAL PROJECT DATA
* 11 * TITLE LINE-1 * EMC ENGINEERS INC. *
* 12 * LINE-2 *EZDOE - ELITE SOFTWARE DEVELOPMENT INC*
* 13 * LINE-3 * DENVER, CO 80227 *
* 14 *
* 15 * LINE-4 *BUILDING 10630, BN HQ BLDG *
* 16 * LINE-5 *MODEL WITH SETBACK AND DDC * ..
* 17 *
* 18 * ABORT ERRORS ..
* 19 * DIAGNOSTIC WARNINGS ..
* 20 * LOADS-REPORT VERIFICATION=(LV-A)
* 21 * SUMMARY=(LS-C,LS-D,LS-K,LS-L) ..
* 22 * BUILDING-LOCATION LATITUDE = 44.0
* 23 * ALTITUDE = 655.
* 24 * AZIMUTH = -40.
* 25 * GROSS-AREA = 11544
* 26 * HOLIDAY = NO
* 27 * SHIELDING-COEF = 0.19
* 28 * X-REF = 0.0
* 29 * Y-REF = 0.0 ..
* 30 * RUN-PERIOD JAN 1 1994 THRU DEC 31 1994 ..
* 31 *
* 32 *
* 33 *          $ SCHEDULES
* 34 *
* 35 * FULL_OND =DAY-SCHEDULE (1,24) (1.) ..
* 36 *
* 37 * FULL_OFFD =DAY-SCHEDULE (1,24) (0.) ..
* 38 *
* 39 * PEOPLE_D =DAY-SCHEDULE (1,6) (0.)
* 40 * (7,10) (1.)
* 41 * (11,13) (0.8,0.4,0.8)
* 42 * (14,16) (1.)
* 43 * (17,21) (0.1)
* 44 * (22,24) (0.) ..
* 45 *
* 46 * EQUIP_D =DAY-SCHEDULE (1,6) (0.1)
* 47 * (7,10) (0.7)
* 48 * (11,13) (0.5,0.4,0.5)
* 49 * (14,16) (0.7)
* 50 * (17,19) (0.3)
* 51 * (20,24) (0.1) ..
* 52 *
* 53 * LIGHT_OND =DAY-SCHEDULE (1,24) (1.) ..
* 54 *
* 55 *
* 56 * FULL_ONW =WEEK-SCHEDULE (ALL) FULL_OND ..
* 57 *
* 58 * FULL_OFFW =WEEK-SCHEDULE (ALL) FULL_OFFD ..
* 59 *
* 60 * LIGHT_ONW =WEEK-SCHEDULE (WD) LIGHT_OND
* 61 * (WEH) FULL_OFFD ..
* 62 *
* 63 * PEOPLE_W =WEEK-SCHEDULE (WD) PEOPLE_D
* 64 * (WEH) FULL_OFFD ..
* 65 *
* 66 * EQUIP_W =WEEK-SCHEDULE (WD) EQUIP_D
* 67 * (WEH) FULL_OFFD ..
* 68 *
* 69 *
* 70 * $ FULL ON SCHEDULE
* 71 * FULL_ONY =SCHEDULE THRU DEC 31 FULL_ONW ..
* 72 *
* 73 * $ FULL OFF SCHEDULE
* 74 * FULL_OFFY =SCHEDULE THRU DEC 31 FULL_OFFW ..
* 75 *
* 76 * $ LIGHT SCHEDULE
* 77 * LIGHT_ONY =SCHEDULE THRU DEC 31 LIGHT_ONW ..
* 78 *
* 79 * $ OCCUPANCY SCHEDULE
* 80 * PEOPLE_Y =SCHEDULE THRU DEC 31 PEOPLE_W ..
* 81 *
* 82 * $ EQUIPMENT SCHEDULE
* 83 * EQUIP_Y =SCHEDULE THRU DEC 31 EQUIP_W ..
* 84 *
* 85 * $ SUMMER VENTIL. SCHED.
* 86 * VENTIL_Y =SCHEDULE THRU MAY 15 FULL_OFFW
* 87 * THRU OCT 1 FULL_ONW
* 88 * THRU DEC 31 FULL_OFFW ..
* 89 *
* 90 * $ PERIM. RAD. SCHEDULE
* 91 * RAD_ON =SCHEDULE THRU MAY 1 FULL_ONW
* 92 * THRU OCT 31 FULL_OFFW
* 93 * THRU DEC 31 FULL_ONW ..
* 94 *
* 95 *
* 96 *
* 97 *          $ CONSTRUCTION TYPES
* 98 *
* 99 *
* 100 *
* 101 *
* 102 * $ WALL BETWEEN MER AND INTERIOR

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* 103 * INWALL =CONSTRUCTION LAYERS = ASHI-18 ..
* 104 * DOORCON =CONSTRUCTION U-VALUE = 1.000 ..
* 105 * ROOFCON =CONSTRUCTION U-VALUE = 0.050 ..
* 106 * EXWALL =CONSTRUCTION U-VALUE = 0.200 ..
* 107 * FLOORCON =CONSTRUCTION U-VALUE = 0.100 ..
* 108 *
* 109 * $ NO PHYS BOUNDARY BETWEEN SPACES
* 110 * AIRWALL =CONSTRUCTION U-VALUE = 20.000 ..
* 111 *
* 112 * SKYLIGHT =GLASS-TYPE GLASS-TYPE-CODE = 5
* 113 * PANES = 2
* 114 * GLASS-CONDUCTANCE = 0.490 ..
* 115 * WNDW =GLASS-TYPE GLASS-TYPE-CODE = 4
* 116 * PANES = 1
* 117 * GLASS-CONDUCTANCE = 1.130 ..
* 118 * DOORGLSS =GLASS-TYPE GLASS-TYPE-CODE = 3
* 119 * PANES = 1
* 120 * GLASS-CONDUCTANCE = 1.130 ..
* 121 *
* 122 *
* 123 *
* 124 *
* 125 * $ SPACE DESCRIPTION
* 126 *
* 127 * MAINAREA_A =SPACE AREA = 5595.0 VOLUME = 50355.0
* 128 * AZIMUTH = 315 ZONE-TYPE = CONDITIONED
* 129 * PEOPLE-SCHEDULE = PEOPLE_Y NUMBER-OF-PEOPLE = 40.0
* 130 * PEOPLE-HEAT-GAIN = 480.0
* 131 * LIGHTING-TYPE = REC-FLUOR-RV LIGHTING-KW = 13.24
* 132 * LIGHTING-SCHEDULE = LIGHT_ONY
* 133 * EQUIP-SCHEDULE = EQUIP_Y EQUIPMENT-KW = 1.0
* 134 * SOURCE-SENSIBLE = 0.0 INF-METHOD = AIR-CHANGE
* 135 * AIR-CHANGES/HR = 1.75 INF-SCHEDULE = FULL_ONY ..
* 136 *
* 137 * E-W HEIGHT = 9.0 WIDTH = 42.0 CONS = EXWALL
* 138 * AZIMUTH = 45 ..
* 139 *
* 140 * WINDOW HEIGHT = 8.0 WIDTH = 3.0 G-T = DOORGLSS ..
* 141 *
* 142 * DOOR HEIGHT = 8.0 WIDTH = 6.0 CONS = DOORCON ..
* 143 *
* 144 * WINDOW HEIGHT = 6.0 WIDTH = 3.0 G-T = WNDW ..
* 145 *
* 146 * E-W HEIGHT = 9.0 WIDTH = 61.0 CONS = EXWALL
* 147 * AZIMUTH = 135 ..
* 148 *
* 149 * WINDOW HEIGHT = 6.0 WIDTH = 5.0 G-T = WNDW
* 150 * MULTIPLIER = 5.0 ..
* 151 *
* 152 * E-W HEIGHT = 9.0 WIDTH = 52.5 CONS = EXWALL
* 153 * AZIMUTH = 45 ..
* 154 *
* 155 * WINDOW HEIGHT = 8.0 WIDTH = 6.0 G-T = DOORGLSS ..
* 156 *
* 157 * DOOR HEIGHT = 8.0 WIDTH = 6.0 CONS = DOORCON ..
* 158 *
* 159 * WINDOW HEIGHT = 6.0 WIDTH = 3.0 G-T = WNDW
* 160 * MULTIPLIER = 3.0 ..
* 161 *
* 162 * E-W HEIGHT = 12.0 WIDTH = 60.0 CONS = EXWALL
* 163 * AZIMUTH = 135 ..
* 164 *
* 165 * DOOR HEIGHT = 8.0 WIDTH = 6.0 CONS = DOORCON
* 166 * MULTIPLIER = 2.0 ..
* 167 *
* 168 * E-W HEIGHT = 9.0 WIDTH = 79.0 CONS = EXWALL
* 169 * AZIMUTH = 225 ..
* 170 *
* 171 * DOOR HEIGHT = 8.0 WIDTH = 6.0 CONS = DOORCON ..
* 172 *
* 173 * WINDOW HEIGHT = 6.0 WIDTH = 3.0 G-T = WNDW
* 174 * MULTIPLIER = 3.0 ..
* 175 *
* 176 * E-W HEIGHT = 9.0 WIDTH = 36.0 CONS = EXWALL
* 177 * AZIMUTH = 135 ..
* 178 *
* 179 * WINDOW HEIGHT = 6.0 WIDTH = 3.0 G-T = WNDW ..
* 180 *
* 181 * E-W HEIGHT = 9.0 WIDTH = 42.0 CONS = EXWALL
* 182 * AZIMUTH = 225 ..
* 183 *
* 184 * DOOR HEIGHT = 8.0 WIDTH = 3.0 CONS = DOORCON ..
* 185 *
* 186 * WINDOW HEIGHT = 6.0 WIDTH = 3.0 G-T = WNDW
* 187 * MULTIPLIER = 4.0 ..
* 188 *
* 189 * E-W HEIGHT = 9.0 WIDTH = 162.0 CONS = EXWALL
* 190 * AZIMUTH = 315 ..
* 191 *
* 192 * WINDOW HEIGHT = 8.0 WIDTH = 6.0 G-T = DOORGLSS ..
* 193 *
* 194 * WINDOW HEIGHT = 6.0 WIDTH = 3.0 G-T = WNDW
* 195 * MULTIPLIER = 17.0 ..
* 196 *
* 197 * I-W HEIGHT = 9.0 WIDTH = 64.5 CONS = INWALL
* 198 * AZIMUTH = 45 NEXT-TO = MECH_ROOM ..
* 199 *
* 200 * ROOF HEIGHT = 79.0 WIDTH = 30.0 CONS = ROOFCON
* 201 * AZIMUTH = 45 TILT = 40 ..
* 202 *
* 203 * WINDOW HEIGHT = 12.0 WIDTH = 3.0 G-T = SKYLIGHT ..
* 204 *
* 205 * ROOF HEIGHT = 79.0 WIDTH = 30.0 CONS = ROOFCON
* 206 * AZIMUTH = 225 TILT = 40 ..
* 207 *
* 208 * WINDOW HEIGHT = 12.0 WIDTH = 3.0 G-T = SKYLIGHT ..
* 209 *
* 210 * ROOF HEIGHT = 21.0 WIDTH = 162.0 CONS = ROOFCON

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```

* 211 *          AZIMUTH = 135  TILT = 40  ..
* 212 *
* 213 *          ROOF    HEIGHT = 21.0  WIDTH = 162.0  CONS = ROOFCON
* 214 *          AZIMUTH = 315  TILT = 40  ..
* 215 *
* 216 *
* 217 * MECH_ROOM =SPACE  AREA = 354.0  VOLUME = 4248.0
* 218 *          AZIMUTH = 315  TEMPERATURE = (55.)
* 219 *          ZONE-TYPE = CONDITIONED  PEOPLE-SCHEDULE = FULL OFFY
* 220 *          AREA/PERSON = 100.0  LIGHTING-SCHEDULE = FULL OFFY
* 221 *          EQUIP-SCHEDULE = FULL OFFY  EQUIPMENT-KW = 0.37
* 222 *          EQUIP-SENSIBLE = 0.03  SOURCE-SENSIBLE = 0.0
* 223 *          INF-METHOD = AIR-CHANGE  AIR-CHANGES/HR = 0.1
* 224 *          INF-SCHEDULE = FULL_ONY  ..
* 225 *
* 226 *          E-W    HEIGHT = 12.0  WIDTH = 26.5  CONS = EXWALL
* 227 *          AZIMUTH = 45  ..
* 228 *
* 229 *          DOOR    HEIGHT = 8.0  WIDTH = 6.0  CONS = DOORCON ..
* 230 *
* 231 *          I-W    HEIGHT = 9.0  WIDTH = 64.5  CONS = INWALL
* 232 *          AZIMUTH = 45  NEXT-TO = MAINAREA_A  ..
* 233 *
* 234 *
* 235 * MAINAREA_B =SPACE  AREA = 5595.0  VOLUME = 50355.0
* 236 *          AZIMUTH = 315  ZONE-TYPE = CONDITIONED
* 237 *          AREA/PERSON = 100.0  FLOOR-WEIGHT = 0.1
* 238 *          INF-METHOD = AIR-CHANGE  AIR-CHANGES/HR = 1.75
* 239 *          INF-SCHEDULE = FULL_ONY  ..
* 240 *
* 241 *          I-W    HEIGHT = 9.0  WIDTH = 162.0  CONS = AIRWALL
* 242 *          AZIMUTH = 315  NEXT-TO = MAINAREA_A  ..
* 243 *
* 244 *
* 245 * END ..
* 246 * COMPUTE LOADS ..
* 247 *
* 248 * INPUT SYSTEMS ..

```

SDL PROCESSOR INPUT DATA

3/20/1995 9:33:33 SDL RUN 1

```

* 249 *
* 250 *
* 251 *
* 252 *          $-----$
* 253 *          $ E Z - D O E   S Y S T E M S   I N P U T $
* 254 *          $-----$
* 255 *
* 256 *          $ GENERAL PROJECT DATA
* 257 *
* 257 * TITLE   LINE-1 *      EMC      ENGINEERS      INC.      *
* 258 *          LINE-2 *EZDOE - ELITE SOFTWARE DEVELOPMENT INC*
* 259 *          LINE-3 *      DENVER,      CO      80227      *
* 260 *
* 261 *          LINE-4 *BUILDING 10630, BN HQ BLDG      *
* 262 *          LINE-5 *MODEL WITH SETBACK AND DDC      * ..
* 263 * ABORT      ERRORS      ..
* 264 * DIAGNOSTIC  WARNINGS ..
* 265 * SYSTEMS-REPORT VERIFICATION=(SV-A)
* 266 *          SUMMARY=(SS-A,SS-B,SS-C,SS-D,SS-E,SS-F,SS-G,
* 267 *          SS-H,SS-I,SS-J,SS-K,SS-L,SS-M,SS-N,
* 268 *          SS-O) ..
* 269 *
* 270 *          $ SCHEDULES
* 271 *
* 272 * FULL_OND      =DAY-SCHEDULE (1,24) (1.) ..
* 273 * FULL_OFFD     =DAY-SCHEDULE (1,24) (0.) ..
* 274 * HIGH_HT_D     =DAY-SCHEDULE (1,24) (70.) ..
* 275 * LOW_HT_D      =DAY-SCHEDULE (1,24) (55.) ..
* 276 * BASEBOARDDD  =DAY-SCHEDULE (1,24) (74.) ..
* 277 * 75_D          =DAY-SCHEDULE (1,24) (75.) ..
* 278 * 50%FAN_D     =DAY-SCHEDULE (1,5) (0.,1.,0.,1.,0.)
* 279 *          (6,10) (1.,0.,1.,0.,1.)
* 280 *          (11,15) (0.,1.,0.,1.,0.)
* 281 *          (16,20) (1.,0.,1.,0.,1.)
* 282 *          (21,24) (0.,1.,0.,1.) ..
* 283 * FAN_SB_D      =DAY-SCHEDULE (1,4) (0.)
* 284 *          (5,16) (1.)
* 285 *          (17,24) (0.) ..
* 286 * 50%SF_SB_D    =DAY-SCHEDULE (1,5) (0.)
* 287 *          (6,10) (1.,0.,1.,0.,1.)
* 288 *          (11,15) (0.,1.,0.,1.,0.)
* 289 *          (16) (1.)
* 290 *          (17,24) (0.) ..
* 291 * LW_HT_SB_D     =DAY-SCHEDULE (1,24) (50.) ..
* 292 * HI_HT_SB_D     =DAY-SCHEDULE (1,4) (50.)
* 293 *          (5,16) (70.)
* 294 *          (17,24) (50.) ..
* 295 *
* 296 * FULL_ONW      =WEEK-SCHEDULE (ALL) FULL_OND ..
* 297 *
* 298 * FULL_OFFW     =WEEK-SCHEDULE (ALL) FULL_OFFD ..
* 299 *
* 300 * HIGH_HT_W      =WEEK-SCHEDULE (ALL) HIGH_HT_D ..
* 301 *
* 302 * LOW_HT_W       =WEEK-SCHEDULE (ALL) LOW_HT_D ..
* 303 *
* 304 * BASEBOARDW     =WEEK-SCHEDULE (ALL) BASEBOARDDD ..
* 305 *
* 306 * 75_W           =WEEK-SCHEDULE (ALL) 75_D ..
* 307 *
* 308 * 50%FAN        =WEEK-SCHEDULE (ALL) 50%FAN_D ..
* 309 *
* 310 * FAN_SB_W       =WEEK-SCHEDULE (WD) FAN_SB_D
* 311 *          (SAT) FULL_OFFD
* 312 *          (SUN) FULL_OFFD
* 313 *          (HOL) FAN_SB_D ..
* 314 *
* 315 * 50%SF_SB_W     =WEEK-SCHEDULE (WD) 50%SF_SB_D
* 316 *          (SAT) FULL_OFFD
* 317 *          (SUN) FULL_OFFD
* 318 *          (HOL) 50%SF_SB_D ..
* 319 *
* 320 * LW_HT_SB_W     =WEEK-SCHEDULE (WD) LW_HT_SB_D
* 321 *          (SAT) FULL_OFFD
* 322 *          (SUN) FULL_OFFD
* 323 *          (HOL) LW_HT_SB_D ..
* 324 *
* 325 * HI_HT_SB_W     =WEEK-SCHEDULE (WD) HI_HT_SB_D
* 326 *          (SAT) FULL_OFFD
* 327 *          (SUN) FULL_OFFD
* 328 *          (HOL) HI_HT_SB_D ..
* 329 *
* 330 *
* 331 * $ FULL ON SCHEDULE
* 332 * FULL_ONY      =SCHEDULE THRU DEC 31 FULL_ONW ..
* 333 *
* 334 * $ FULL OFF SCHEDULE
* 335 * FULL_OFFY     =SCHEDULE THRU DEC 31 FULL_OFFW ..
* 336 *
* 337 * $ AHU1 HEATING SCHEDULE
* 338 * HIGH_HT       =SCHEDULE THRU DEC 31 HIGH_HT_W ..
* 339 *
* 340 * $ AHU2 HEAT SCHEDULE
* 341 * LOW_HT        =SCHEDULE THRU DEC 31 LOW_HT_W ..
* 342 *
* 343 * $ THIS SCHED IS NOT USED
* 344 * BBOARDSCHD    =SCHEDULE THRU DEC 31 BASEBOARDW ..
* 345 *
* 346 * SF_1_ON       =SCHEDULE THRU JUN 1 FULL_OFFW
* 347 *          THRU JUN 25 50%FAN
* 348 *          THRU JUL 15 FULL_ONW

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* 349 *          THRU SEP 15 50%FAN
* 350 *          THRU DEC 31 FULL_OFFW ..
* 351 *
* 352 * 75_Y      =SCHEDULE THRU MAY 15 FULL_OFFW
* 353 *          THRU OCT 1 75 W
* 354 *          THRU DEC 31 FULL_OFFW ..
* 355 *
* 356 * FAN_SB    =SCHEDULE THRU DEC 31 FAN_SB_W ..
* 357 *
* 358 * SF_W_SB   =SCHEDULE THRU JUN 1 FULL OFFW
* 359 *          THRU JUN 25 50%SF_SB_W
* 360 *          THRU JUL 15 FAN_SB_W
* 361 *          THRU SEP 15 50%SF_SB_W
* 362 *          THRU DEC 31 FULL_OFFW ..
* 363 *
* 364 * LOW_HT_WSB =SCHEDULE THRU DEC 31 LW_HT_SB_W ..
* 365 *
* 366 * $ AHU1 HEATING SETBACK
* 367 * HI_HT_SB   =SCHEDULE THRU DEC 31 HI_HT_SB_W ..
* 368 *
* 369 *
* 370 *
* 371 *          $ ZONE DESCRIPTION
* 372 *
* 373 * MAINAREA_A =ZONE DESIGN-HEAT-T = 70.0 DESIGN-COOL-T = 75.0
* 374 *          HEAT-TEMP-SCH = HI HT_SB ZONE-TYPE = CONDITIONED
* 375 *          THERMOSTAT-TYPE = PROPORTIONAL
* 376 *          BASEBOARD-CTRL = THERMOSTATIC
* 377 *          BASEBOARD-RATING = -253615. ASSIGNED-CFM = 1230.
* 378 *          OUTSIDE-AIR-CFM = 1230. SIZING-OPTION = FROM-LOADS
* 379 *          RATED-CFM = 10.0 MIN-CFM-RATIO = 1.0
* 380 *          EXHAUST-CFM = 10.0 HEATING-CAPACITY = -99630.0 ..
* 381 *
* 382 * MECH_ROOM =ZONE DESIGN-HEAT-T = 55.0 DESIGN-COOL-T = 90.0
* 383 *          HEAT-TEMP-SCH = LOW HT WSB ZONE-TYPE = CONDITIONED
* 384 *          THERMOSTAT-TYPE = PROPORTIONAL
* 385 *          BASEBOARD-CTRL = THERMOSTATIC
* 386 *          BASEBOARD-RATING = -8500. ASSIGNED-CFM = 210.
* 387 *          SIZING-OPTION = FROM-LOADS RATED-CFM = 210.0
* 388 *          HEATING-CAPACITY = -3500.0 ..
* 389 *
* 390 * MAINAREA_B =ZONE DESIGN-HEAT-T = 55.0 DESIGN-COOL-T = 75.0
* 391 *          ZONE-TYPE = CONDITIONED
* 392 *          THERMOSTAT-TYPE = PROPORTIONAL ASSIGNED-CFM = 7025.
* 393 *          OUTSIDE-AIR-CFM = 7025. SIZING-OPTION = FROM-LOADS ..
* 394 *
* 395 *
* 396 *          $ SYSTEM DESCRIPTION
* 397 *
* 398 * AHU_1      =SYSTEM SYSTEM-TYPE = HVSYS
* 399 *          MAX-SUPPLY-T = 135.0 MIN-HUMIDITY = 30.0
* 400 *          ECONO-LIMIT-T = 65.0 ECONO-LOW-LIMIT = 55.0
* 401 *          SUPPLY-CFM = 1230. RATED-CFM = 1230.
* 402 *          MIN-OUTSIDE-AIR = 1.0 FAN-SCHEDULE = FAN_SB
* 403 *          SUPPLY-DELTA-T = 2.4 SUPPLY-KW = 0.00078
* 404 *          MOTOR-PLACEMENT = OUTSIDE-AIRFLOW
* 405 *          NIGHT-CYCLE-CTRL = CYCLE-ON-ANY NIGHT-VENT-DT = 0.0
* 406 *          HEATING-CAPACITY = -99630. FURNACE-AUX = 0.
* 407 *          RETURN-AIR-PATH = DUCT
* 408 *          ZONE-NAMES = (MAINAREA_A) ..
* 409 *
* 410 * AHU_2      =SYSTEM SYSTEM-TYPE = SZRH
* 411 *          MAX-SUPPLY-T = 160.0 MIN-SUPPLY-T = 55.0
* 412 *          HEAT-SET-T = 160.0 PREHEAT-T = 40.0
* 413 *          MAX-HUMIDITY = 65.0 MIN-HUMIDITY = 35.0
* 414 *          ECONO-LIMIT-T = 65.0 ECONO-LOW-LIMIT = 55.0
* 415 *          SUPPLY-CFM = 210. RETURN-CFM = 210.
* 416 *          RATED-CFM = 210. MIN-AIR-SCH = FULL_OFFW
* 417 *          FAN-SCHEDULE = FAN_SB SUPPLY-DELTA-T = 2.4
* 418 *          SUPPLY-KW = 0.00078 NIGHT-CYCLE-CTRL = CYCLE-ON-ANY
* 419 *          NIGHT-VENT-DT = 0.0 MIN-CFM-RATIO = 1.0
* 420 *          HEATING-CAPACITY = -3500. FURNACE-AUX = 0.
* 421 *          ZONE-NAMES = (MECH_ROOM) ..
* 422 *
* 423 * SF_1&2     =SYSTEM SYSTEM-TYPE = SZRH
* 424 *          MAX-SUPPLY-T = 135.0 MIN-SUPPLY-T = 55.0
* 425 *          HEATING-SCHEDULE = FULL OFFW MIN-HUMIDITY = 30.0
* 426 *          ECONO-LIMIT-T = 65.0 ECONO-LOW-LIMIT = 1.0
* 427 *          SUPPLY-CFM = 7025. RATED-CFM = 7025.
* 428 *          MIN-OUTSIDE-AIR = 1.0 FAN-SCHEDULE = SF_W_SB
* 429 *          SUPPLY-DELTA-T = 2.4 SUPPLY-KW = 0.00218
* 430 *          NIGHT-CYCLE-CTRL = CYCLE-ON-ANY NIGHT-VENT-DT = 0.0
* 431 *          MIN-CFM-RATIO = 0.5 FURNACE-AUX = 0.
* 432 *          ZONE-NAMES = (MAINAREA_B) ..
* 433 *
* 434 *
* 435 *          $ HOURLY REPORT DESCRIPTION
* 436 *
* 437 * SYST1      =REPORT-BLOCK VARIABLE-TYPE = SF 1&2
* 438 *          VARIABLE-LIST = (17,32) ..
* 439 * SYST2      =REPORT-BLOCK VARIABLE-TYPE = MAINAREA_B
* 440 *          VARIABLE-LIST = (6) ..
* 441 * REP1      = HOURLY-REPORT REPORT-SCHEDULE = FULL ONY
* 442 *          REPORT-BLOCK = (SYST1,SYST2)
* 443 *
* 444 * END ..
* 445 * COMPUTE SYSTEMS ..
* 446 *
* 447 * INPUT PLANT ..

```



PDL PROCESSOR INPUT DATA

3/20/1995 9:33:33 PDL RUN 1

```

* 448 *
* 449 *
* 450 *          $-----$
* 451 *          $EZ - DOE PLANTS INPUT$
* 452 *          $-----$
* 453 *
* 454 *          $ GENERAL PROJECT DATA
* 455 *
* 456 * TITLE LINE-1 * EMC ENGINEERS INC. *
* 457 * LINE-2 *EZDOE - ELITE SOFTWARE DEVELOPMENT INC*
* 458 * LINE-3 * DENVER, CO 80227 *
* 459 *
* 460 * LINE-4 *BUILDING 10630, BN HQ BLDG *
* 461 * LINE-5 *MODEL WITH SETBACK AND DDC * ..
* 462 *
* 463 * ABORT ERRORS ..
* 464 * DIAGNOSTIC WARNINGS ..
* 465 * PLANT-REPORT SUMMARY=(PS-A,PS-B,BEPS)
* 466 * ..
* 467 *
* 468 *          $ SCHEDULES
* 469 *
* 470 * HE_D =DAY-SCHEDULE (1,24) (1.) ..
* 471 *
* 472 * FULL_OFFD =DAY-SCHEDULE (1,24) (0.) ..
* 473 *
* 474 *
* 475 * HE_W =WEEK-SCHEDULE (ALL) HE_D ..
* 476 *
* 477 * FULL_OFFW =WEEK-SCHEDULE (ALL) FULL_OFFD ..
* 478 *
* 479 *
* 480 * $ HEAT EXCHANGER SCHED
* 481 * HE_SCHED =SCHEDULE THRU MAY 15 HE_W
* 482 * THRU OCT 1 FULL_OFFW
* 483 * THRU DEC 31 HE_W ..
* 484 *
* 485 *
* 486 *
* 487 *          $ EQUIPMENT DESCRIPTION
* 488 *
* 489 * HE =PLANT-EQUIPMENT TYPE = HTANK-STORAGE
* 490 * SIZE = 0.4 ..
* 491 *
* 492 * PLANT-PARAMETERS BOILER-FUEL = COAL MAKEUP-WTR-T = 200.
* 493 * STM-BOILER-HIR = 1.0 ..
* 494 *
* 495 *
* 496 * ENERGY-RESOURCE RESOURCE = ELECTRICITY ..
* 497 * ENERGY-RESOURCE RESOURCE = STEAM SOURCE-SITE-EFF = 1.000 ..
* 498 *
* 499 * ENERGY-STORAGE HEAT-STORE-RATE = 371.9 HEAT-SUPPLY-RATE = 371.9
* 500 * HTANK-BASE-T = 190.0 HEAT-STORE-SCH = HE_SCHED
* 501 * HTANK-ENV-T = 60.0 ..
* 502 *
* 503 * HEAT-RECOVERY
* 504 * SUPPLY-1 = (HTANK-STORAGE)
* 505 * DEMAND-1 = (SPACE-HEAT) ..
* 506 *
* 507 * LOADHE1 =LOAD-ASSIGNMENT TYPE = HEATING
* 508 * OPERATION-MODE = RUN-ALL
* 509 *
* 510 * LOAD-RANGE = 1.000
* 511 * PLANT-EQUIPMENT = HE
* 512 * NUMBER = 1 ..
* 513 *
* 514 *
* 515 *
* 516 * END ..
* 517 * COMPUTE PLANT ..
* 518 * STOP ..

```

ENERGY TYPE IN SITE MBTU-	STEAM	ELECTRICITY
CATEGORY OF USE		
SPACE HEAT	590.85	0.00
SPACE COOL	0.00	0.00
HVAC AUX	0.00	45.87
DOM HOT WTR	0.00	0.00
AUX SOLAR	0.00	0.00
LIGHTS	0.00	281.96
VERT TRANS	0.00	0.00
MISC EQUIP	0.00	7.37
	-----	-----
TOTAL	590.85	335.20

TOTAL SITE ENERGY 926.06 MBTU 80.2 KBTU/SQFT-YR GROSS-AREA 80.2 KBTU/SQFT-YR NET-AREA  
 TOTAL SOURCE ENERGY 1597.50 MBTU 138.4 KBTU/SQFT-YR GROSS-AREA 138.4 KBTU/SQFT-YR NET-AREA

PERCENT OF HOURS ANY SYSTEM ZONE OUTSIDE OF THROTTLING RANGE = 33.6  
 PERCENT OF HOURS ANY PLANT LOAD NOT SATISFIED = 0.0

NOTE ELECTRICITY AND/OR FUEL USED TO GENERATE ELECTRICITY IS APPORTIONED BASED  
 ON THE YEARLY DEMAND. ALL OTHER ENERGY TYPES ARE APPORTIONED HOURLY.

EMC ENGINEERS INC. E2DOE - ELITE SOFTWARE DEVELOPMENT INC DOE-2.1D 3/20/1995 9:33:33 PDL RUN 1  
 DENVER, CO 80227 BUILDING 10630, BN HQ BLDG MODEL WITH SETBACK AND DDC  
 REPORT- PS-B MONTHLY PEAK AND TOTAL ENERGY USE WEATHER FILE- MASSENA, NY

MO	UTILITY-	STEAM	ELECTRICITY
	TOTAL (MBTU)	129.959	25.286
JAN	PEAK (KBTU)	418.938	52.956
	DY/HR	5/12	31/16
	TOTAL (MBTU)	88.885	23.768
FEB	PEAK (KBTU)	386.067	52.956
	DY/HR	4/12	28/16
	TOTAL (MBTU)	93.543	27.266
MAR	PEAK (KBTU)	397.079	52.956
	DY/HR	9/ 5	31/16
	TOTAL (MBTU)	45.279	24.741
APR	PEAK (KBTU)	349.989	52.956
	DY/HR	1/ 5	29/16
	TOTAL (MBTU)	21.356	25.830
MAY	PEAK (KBTU)	325.997	52.956
	DY/HR	2/10	31/ 9
	TOTAL (MBTU)	3.062	33.586
JUN	PEAK (KBTU)	122.620	105.246
	DY/HR	7/ 9	30/ 8
	TOTAL (MBTU)	1.841	34.495
JUL	PEAK (KBTU)	176.075	105.246
	DY/HR	25/ 7	28/16
	TOTAL (MBTU)	3.483	34.112
AUG	PEAK (KBTU)	183.495	105.246
	DY/HR	22/ 7	31/10
	TOTAL (MBTU)	13.548	29.258
SEP	PEAK (KBTU)	301.139	105.246
	DY/HR	23/ 6	15/16
	TOTAL (MBTU)	36.939	24.724
OCT	PEAK (KBTU)	344.077	52.956
	DY/HR	28/ 8	31/16
	TOTAL (MBTU)	62.392	25.984
NOV	PEAK (KBTU)	366.079	52.956
	DY/HR	29/ 6	30/16
	TOTAL (MBTU)	90.563	26.164
DEC	PEAK (KBTU)	388.885	52.956
	DY/HR	23/ 6	30/16
	ONE YEAR	590.852	335.212
	USE/PEAK	418.938	105.246

**COMPUTER SIMULATIONS**

BUILDING 10670

**COMPUTER SIMULATIONS**  
BUILDING 10670

BASE RUN

# LDL PROCESSOR INPUT DATA

3/18/1995 9:45:19 LDL RUN 1

```

* 3 *
* 4 *
* 5 *      $-----$
* 6 *      $EZ-DOE LOADS INPUT$
* 7 *      $-----$
* 8 *
* 9 *      $ GENERAL PROJECT DATA
* 10 *
* 11 * TITLE LINE-1 * EMC ENGINEERS INC. *
* 12 * LINE-2 *EZDOE - ELITE SOFTWARE DEVELOPMENT INC*
* 13 * LINE-3 * DENVER, CO 80227 *
* 14 *
* 15 * LINE-4 *BUILDING 10670, VEHICLE MAINT. SHOP *
* 16 * LINE-5 *BASE MODEL *..
* 17 *
* 18 * ABORT ERRORS ..
* 19 * DIAGNOSTIC WARNINGS ..
* 20 * LOADS-REPORT SUMMARY=(LS-C,LS-D)
* 21 * HOURLY-DATA-SAVE = YES ..
* 22 * BUILDING-LOCATION HOLIDAY = NO
* 23 * X-REF = 0.0
* 24 * Y-REF = 0.0 ..
* 25 * RUN-PERIOD JAN 1 1994 THRU DEC 31 1994 ..
* 26 *
* 27 *
* 28 *      $ SCHEDULES
* 29 *
* 30 * FULL_ON_D =DAY-SCHEDULE (1,24) (1.) ..
* 31 *
* 32 * FULL_OFF_D =DAY-SCHEDULE (1,24) (0.) ..
* 33 *
* 34 * LIGHT_ON_D =DAY-SCHEDULE (1,5) (0.23)
* 35 *      (6,7) (0.35)
* 36 *      (8,9) (0.5,0.6)
* 37 *      (10,11) (0.75)
* 38 *      (12) (0.5)
* 39 *      (13,14) (0.75)
* 40 *      (15) (0.5)
* 41 *      (16,18) (0.4)
* 42 *      (19) (0.3)
* 43 *      (20,24) (0.23) ..
* 44 *
* 45 * LT_ON_WKND =DAY-SCHEDULE (1,6) (0.23)

```

\* 46 \* (7,19) (0.07)  
 \* 47 \* (20,24) (0.23) ..  
 \* 48 \*  
 \* 49 \* PEOPLE\_D =DAY-SCHEDULE (1,5) (0.)  
 \* 50 \* (6,7) (0.1,0.5)  
 \* 51 \* (8,11) (1.)  
 \* 52 \* (12) (0.8)  
 \* 53 \* (13,16) (1.)  
 \* 54 \* (17,18) (0.5,0.1)  
 \* 55 \* (19,24) (0.) ..  
 \* 56 \*  
 \* 57 \* EQUIP\_ON\_D =DAY-SCHEDULE (1,5) (0.05)  
 \* 58 \* (6,7) (0.1,0.2)  
 \* 59 \* (8,9) (0.3)  
 \* 60 \* (10,11) (0.4,0.7)  
 \* 61 \* (12,13) (0.4)  
 \* 62 \* (14,15) (0.8)  
 \* 63 \* (16,18) (0.7,0.3,0.1)  
 \* 64 \* (19,24) (0.05) ..  
 \* 65 \*  
 \* 66 \* SHOP\_INF\_D =DAY-SCHEDULE (1,24) (1.) ..  
 \* 67 \*  
 \* 68 \* HALF\_ON =DAY-SCHEDULE (1,24) (0.5) ..  
 \* 69 \*  
 \* 70 \* VENT\_QURTD =DAY-SCHEDULE (1,11) (0.)  
 \* 71 \* (12,17) (1.)  
 \* 72 \* (18,24) (0.) ..  
 \* 73 \*  
 \* 74 \* VENT\_HALFD =DAY-SCHEDULE (1,9) (0.)  
 \* 75 \* (10,21) (1.)  
 \* 76 \* (22,24) (0.) ..  
 \* 77 \*  
 \* 78 \* HPHW\_D =DAY-SCHEDULE (1,11) (0.)  
 \* 79 \* (12) (1.)  
 \* 80 \* (13,24) (0.) ..  
 \* 81 \*  
 \* 82 \* VEH\_EXH\_D =DAY-SCHEDULE (1,5) (0.)  
 \* 83 \* (6,16) (1.)  
 \* 84 \* (17) (0.5)  
 \* 85 \* (18,24) (0.) ..  
 \* 86 \*  
 \* 87 \* DHW\_D =DAY-SCHEDULE (1,5) (0.)  
 \* 88 \* (6,8) (0.55)  
 \* 89 \* (9,10) (0.5)  
 \* 90 \* (11,15) (0.55,0.9,0.6,0.8,0.7)  
 \* 91 \* (16) (0.75)  
 \* 92 \* (17,18) (0.3)  
 \* 93 \* (19,20) (0.4,0.05)  
 \* 94 \* (21,24) (0.) ..  
 \* 95 \*

\* 96 \* COMPRESS\_D =DAY-SCHEDULE (1,24) (0.33) ..  
 \* 97 \*  
 \* 98 \*  
 \* 99 \* FULL\_ON\_W =WEEK-SCHEDULE (ALL) FULL\_ON\_D ..  
 \* 100 \*  
 \* 101 \* FULL\_OFF\_W =WEEK-SCHEDULE (ALL) FULL\_OFF\_D ..  
 \* 102 \*  
 \* 103 \* LIGHT\_ON\_W =WEEK-SCHEDULE (WD) LIGHT\_ON\_D  
 \* 104 \* (WEH) LT\_ON\_WKND ..  
 \* 105 \*  
 \* 106 \* PEOPLE\_W =WEEK-SCHEDULE (WD) PEOPLE\_D  
 \* 107 \* (WEH) FULL\_OFF\_D ..  
 \* 108 \*  
 \* 109 \* EQUIP\_W =WEEK-SCHEDULE (WD) EQUIP\_ON\_D  
 \* 110 \* (WEH) FULL\_OFF\_D ..  
 \* 111 \*  
 \* 112 \* SHOP\_IFL\_W =WEEK-SCHEDULE (WD) SHOP\_INF\_D  
 \* 113 \* (WEH) FULL\_OFF\_D ..  
 \* 114 \*  
 \* 115 \* UH\_HALF\_W =WEEK-SCHEDULE (ALL) HALF\_ON ..  
 \* 116 \*  
 \* 117 \* VENT\_QRT\_W =WEEK-SCHEDULE (ALL) VENT\_URTD ..  
 \* 118 \*  
 \* 119 \* VENT\_HLF\_W =WEEK-SCHEDULE (ALL) VENT\_HALFD ..  
 \* 120 \*  
 \* 121 \* HPHW\_W =WEEK-SCHEDULE (MON) FULL\_OFF\_D  
 \* 122 \* (TUE) FULL\_OFF\_D  
 \* 123 \* (WED) HPHW\_D  
 \* 124 \* (THU) FULL\_OFF\_D  
 \* 125 \* (FRI) HPHW\_D  
 \* 126 \* (SAT) FULL\_OFF\_D  
 \* 127 \* (SUN) FULL\_OFF\_D  
 \* 128 \* (HOL) FULL\_OFF\_D ..  
 \* 129 \*  
 \* 130 \* VEH\_EX\_W =WEEK-SCHEDULE (WD) VEH\_EXH\_D  
 \* 131 \* (WEH) FULL\_OFF\_D ..  
 \* 132 \*  
 \* 133 \* DHW\_W =WEEK-SCHEDULE (WD) DHW\_D  
 \* 134 \* (WEH) FULL\_OFF\_D ..  
 \* 135 \*  
 \* 136 \* COMPRESS\_W =WEEK-SCHEDULE (ALL) COMPRESS\_D ..  
 \* 137 \*  
 \* 138 \*  
 \* 139 \* \$ FULL OFF SCHEDULE  
 \* 140 \* FULL\_OFF =SCHEDULE THRU DEC 31 FULL\_OFF\_W ..  
 \* 141 \*  
 \* 142 \* \$ LIGHTING SCHEDULE  
 \* 143 \* LIGHT\_SCHD =SCHEDULE THRU DEC 31 LIGHT\_ON\_W ..  
 \* 144 \*  
 \* 145 \* \$ OCCUPANCY SCHEDULE



\* 146 \* PEOPLE\_SCH =SCHEDULE THRU DEC 31 PEOPLE\_W ..  
 \* 147 \*  
 \* 148 \* \$ EQUIPMENT SCHEDULE  
 \* 149 \* EQUIP\_SCHD =SCHEDULE THRU DEC 31 EQUIP\_W ..  
 \* 150 \*  
 \* 151 \* \$ SHOP INFILTRATION SCHED  
 \* 152 \* SHOP\_INFIL =SCHEDULE THRU DEC 31 SHOP\_IFL\_W ..  
 \* 153 \*  
 \* 154 \* \$ UNIT HEATER POWER CONS.  
 \* 155 \* UNIT\_HEAT =SCHEDULE THRU MAR 15 FULL\_ON\_W  
 \* 156 \*           THRU MAY 15 UH\_HALF\_W  
 \* 157 \*           THRU OCT 1 FULL\_OFF\_W  
 \* 158 \*           THRU NOV 15 UH\_HALF\_W  
 \* 159 \*           THRU DEC 31 FULL\_ON\_W ..  
 \* 160 \*  
 \* 161 \* \$ SUMMER EX FAN SCHEDULE  
 \* 162 \* VENT\_ON =SCHEDULE THRU MAY 15 FULL\_OFF\_W  
 \* 163 \*           THRU JUN 20 VENT\_QRT\_W  
 \* 164 \*           THRU JUL 20 VENT\_HLF\_W  
 \* 165 \*           THRU OCT 1 VENT\_QRT\_W  
 \* 166 \*           THRU DEC 31 FULL\_OFF\_W ..  
 \* 167 \*  
 \* 168 \* \$ FULL\_ON SCHEDULE  
 \* 169 \* FULL\_ON =SCHEDULE THRU DEC 31 FULL\_ON\_W ..  
 \* 170 \*  
 \* 171 \* \$ HIGH PRESS HW WASHER SD  
 \* 172 \* HPHW\_SCHD =SCHEDULE THRU DEC 31 HPHW\_W ..  
 \* 173 \*  
 \* 174 \* \$ VEHICLE EXHAUST FAN SCH  
 \* 175 \* VEH\_EXH =SCHEDULE THRU DEC 31 VEH\_EX\_W ..  
 \* 176 \*  
 \* 177 \* \$ DHW SCHEDULE  
 \* 178 \* DHW\_SCHD =SCHEDULE THRU DEC 31 DHW\_W ..  
 \* 179 \*  
 \* 180 \* \$ COMPRESSOR SCHEDULE  
 \* 181 \* COMPR\_SCHD =SCHEDULE THRU DEC 31 COMPRESS\_W ..  
 \* 182 \*  
 \* 183 \*  
 \* 184 \*  
 \* 185 \*           \$ CONSTRUCTION TYPES  
 \* 186 \*  
 \* 187 \*  
 \* 188 \*  
 \* 189 \* FLOORCON =CONSTRUCTION U-VALUE = 0.100 ..  
 \* 190 \*  
 \* 191 \* \$ ADMINISTRATION ROOF CONSTRUCTION  
 \* 192 \* ADMROOF =CONSTRUCTION U-VALUE = 0.050 ..  
 \* 193 \*  
 \* 194 \* \$ ROOF CONSTRUCTION  
 \* 195 \* ROOFCON =CONSTRUCTION U-VALUE = 0.050 ..

\* 196 \* WALLCON =CONSTRUCTION U-VALUE = 0.200 ..  
 \* 197 \* INWALL =CONSTRUCTION U-VALUE = 0.500 ..  
 \* 198 \* DOORCON =CONSTRUCTION U-VALUE = 0.400 ..  
 \* 199 \*  
 \* 200 \* G\_TYPE1 =GLASS-TYPE SHADING-COEF = 1.000  
 \* 201 \* PANES = 1  
 \* 202 \* GLASS-CONDUCTANCE = 1.130 ..  
 \* 203 \*  
 \* 204 \*  
 \* 205 \*  
 \* 206 \*  
 \* 207 \* \$ SPACE DESCRIPTION  
 \* 208 \*  
 \* 209 \* BAY\_WEST =SPACE AREA = 11424.0 VOLUME = 342720.0  
 \* 210 \* TEMPERATURE = (55.) ZONE-TYPE = CONDITIONED  
 \* 211 \* PEOPLE-SCHEDULE = PEOPLE\_SCH NUMBER-OF-PEOPLE = 40.0  
 \* 212 \* PEOPLE-HEAT-GAIN = 700.0 LIGHTING-TYPE = INCAND  
 \* 213 \* LIGHTING-KW = 9.17 LIGHTING-SCHEDULE = LIGHT\_SCHD  
 \* 214 \* EQUIP-SCHEDULE = VENT\_ON EQUIPMENT-KW = 14.92  
 \* 215 \* EQUIP-SENSIBLE = 0.01 INF-METHOD = AIR-CHANGE  
 \* 216 \* AIR-CHANGES/HR = 1.0 INF-SCHEDULE = SHOP\_INFIL ..  
 \* 217 \*  
 \* 218 \* U-W HEIGHT = 64.0 WIDTH = 178.5 CONS = FLOORCON ..  
 \* 219 \*  
 \* 220 \* ROOF HEIGHT = 64.0 WIDTH = 178.5 CONS = ROOFCON  
 \* 221 \* TILT = 0 ..  
 \* 222 \*  
 \* 223 \* E-W HEIGHT = 30.0 WIDTH = 178.5 CONS = WALLCON  
 \* 224 \* AZIMUTH = 0 ..  
 \* 225 \*  
 \* 226 \* DOOR HEIGHT = 14.0 WIDTH = 28.0 CONS = DOORCON  
 \* 227 \* MULTIPLIER = 5.0 ..  
 \* 228 \*  
 \* 229 \* DOOR HEIGHT = 7.5 WIDTH = 3.0 CONS = DOORCON  
 \* 230 \* MULTIPLIER = 2.0 ..  
 \* 231 \*  
 \* 232 \* E-W HEIGHT = 30.0 WIDTH = 178.5 CONS = WALLCON  
 \* 233 \* AZIMUTH = 180 ..  
 \* 234 \*  
 \* 235 \* DOOR HEIGHT = 14.0 WIDTH = 28.0 CONS = DOORCON  
 \* 236 \* MULTIPLIER = 5.0 ..  
 \* 237 \*  
 \* 238 \* DOOR HEIGHT = 7.5 WIDTH = 3.0 CONS = DOORCON  
 \* 239 \* MULTIPLIER = 2.0 ..  
 \* 240 \*  
 \* 241 \* E-W HEIGHT = 30.0 WIDTH = 64.0 CONS = WALLCON  
 \* 242 \* AZIMUTH = 270 ..  
 \* 243 \*  
 \* 244 \* DOOR HEIGHT = 7.5 WIDTH = 3.0 CONS = DOORCON  
 \* 245 \* MULTIPLIER = 4.0 ..

\* 246 \*  
 \* 247 \*  
 \* 248 \* BAY\_EAST =SPACE AREA = 13504.0 VOLUME = 405120.0  
 \* 249 \* TEMPERATURE = (55.) ZONE-TYPE = CONDITIONED  
 \* 250 \* PEOPLE-SCHEDULE = PEOPLE\_SCH NUMBER-OF-PEOPLE = 40.0  
 \* 251 \* PEOPLE-HEAT-GAIN = 700.0 LIGHTING-TYPE = INCAND  
 \* 252 \* LIGHTING-KW = 9.54 LIGHTING-SCHEDULE = LIGHT\_SCHD  
 \* 253 \* EQUIP-SCHEDULE = VENT\_ON EQUIPMENT-KW = 18.65  
 \* 254 \* EQUIP-SENSIBLE = 0.01 SOURCE-SENSIBLE = 0.0  
 \* 255 \* INF-METHOD = AIR-CHANGE AIR-CHANGES/HR = 1.0  
 \* 256 \* INF-SCHEDULE = SHOP\_INFIL ..  
 \* 257 \*  
 \* 258 \* U-W HEIGHT = 64.0 WIDTH = 178.5 CONS = FLOORCON ..  
 \* 259 \*  
 \* 260 \* ROOF HEIGHT = 64.0 WIDTH = 178.5 CONS = ROOFCON  
 \* 261 \* TILT = 0 ..  
 \* 262 \*  
 \* 263 \* E-W HEIGHT = 30.0 WIDTH = 178.5 CONS = WALLCON  
 \* 264 \* AZIMUTH = 0 ..  
 \* 265 \*  
 \* 266 \* DOOR HEIGHT = 14.0 WIDTH = 28.0 CONS = DOORCON  
 \* 267 \* MULTIPLIER = 6.0 ..  
 \* 268 \*  
 \* 269 \* DOOR HEIGHT = 7.5 WIDTH = 3.0 CONS = DOORCON  
 \* 270 \* MULTIPLIER = 2.0 ..  
 \* 271 \*  
 \* 272 \* E-W HEIGHT = 30.0 WIDTH = 178.5 CONS = WALLCON  
 \* 273 \* AZIMUTH = 180 ..  
 \* 274 \*  
 \* 275 \* DOOR HEIGHT = 14.0 WIDTH = 28.0 CONS = DOORCON  
 \* 276 \* MULTIPLIER = 6.0 ..  
 \* 277 \*  
 \* 278 \* DOOR HEIGHT = 7.5 WIDTH = 3.0 CONS = DOORCON  
 \* 279 \* MULTIPLIER = 2.0 ..  
 \* 280 \*  
 \* 281 \* E-W HEIGHT = 30.0 WIDTH = 64.0 CONS = WALLCON  
 \* 282 \* AZIMUTH = 90 ..  
 \* 283 \*  
 \* 284 \* DOOR HEIGHT = 7.5 WIDTH = 3.0 CONS = DOORCON  
 \* 285 \* MULTIPLIER = 2.0 ..  
 \* 286 \*  
 \* 287 \*  
 \* 288 \* ADMIN =SPACE AREA = 18592.0 VOLUME = 148736.0  
 \* 289 \* TEMPERATURE = (68.) ZONE-TYPE = CONDITIONED  
 \* 290 \* PEOPLE-SCHEDULE = PEOPLE\_SCH NUMBER-OF-PEOPLE = 40.0  
 \* 291 \* PEOPLE-HEAT-GAIN = 550.0  
 \* 292 \* LIGHTING-TYPE = REC-FLUOR-RV LIGHTING-KW = 14.04  
 \* 293 \* LIGHTING-SCHEDULE = LIGHT\_SCHD  
 \* 294 \* EQUIP-SCHEDULE = EQUIP\_SCHD EQUIPMENT-KW = 15.0  
 \* 295 \* SOURCE-SCHEDULE = DHW\_SCHD SOURCE-TYPE = HOT-WATER

\* 296 \*           SOURCE-BTU/HR = 76000.0   SOURCE-SENSIBLE = 0.2  
 \* 297 \*           INF-METHOD = AIR-CHANGE   AIR-CHANGES/HR = 0.33  
 \* 298 \*           INF-SCHEDULE = FULL\_ON   ..  
 \* 299 \*  
 \* 300 \*   U-W   HEIGHT = 64.0   WIDTH = 84.0   CONS = FLOORCON ..  
 \* 301 \*  
 \* 302 \*   ROOF   HEIGHT = 64.0   WIDTH = 84.0   CONS = FLOORCON  
 \* 303 \*           TILT = 0   ..  
 \* 304 \*  
 \* 305 \*   E-W   HEIGHT = 16.0   WIDTH = 84.0   CONS = FLOORCON  
 \* 306 \*           AZIMUTH = 0   ..  
 \* 307 \*  
 \* 308 \*           WINDOW HEIGHT = 4.0   WIDTH = 2.0   G-T = G\_TYPE1  
 \* 309 \*           MULTIPLIER = 10.0   ..  
 \* 310 \*  
 \* 311 \*           DOOR   HEIGHT = 7.5   WIDTH = 3.0   CONS = DOORCON  
 \* 312 \*           MULTIPLIER = 6.0   ..  
 \* 313 \*  
 \* 314 \*   E-W   HEIGHT = 16.0   WIDTH = 20.0   CONS = FLOORCON  
 \* 315 \*           AZIMUTH = 180   ..  
 \* 316 \*  
 \* 317 \*           WINDOW HEIGHT = 4.0   WIDTH = 2.0   G-T = G\_TYPE1  
 \* 318 \*           MULTIPLIER = 2.0   ..  
 \* 319 \*  
 \* 320 \*           DOOR   HEIGHT = 7.5   WIDTH = 3.0   CONS = DOORCON  
 \* 321 \*           MULTIPLIER = 2.0   ..  
 \* 322 \*  
 \* 323 \*   U-W   HEIGHT = 122.5   WIDTH = 64.0   CONS = FLOORCON ..  
 \* 324 \*  
 \* 325 \*   ROOF   HEIGHT = 122.5   WIDTH = 64.0   CONS = FLOORCON  
 \* 326 \*           TILT = 0   ..  
 \* 327 \*  
 \* 328 \*   E-W   HEIGHT = 8.0   WIDTH = 122.5   CONS = FLOORCON  
 \* 329 \*           AZIMUTH = 90   ..  
 \* 330 \*  
 \* 331 \*           WINDOW HEIGHT = 4.0   WIDTH = 2.0   G-T = G\_TYPE1  
 \* 332 \*           MULTIPLIER = 6.0   ..  
 \* 333 \*  
 \* 334 \*           DOOR   HEIGHT = 7.5   WIDTH = 3.0   CONS = DOORCON  
 \* 335 \*           MULTIPLIER = 8.0   ..  
 \* 336 \*  
 \* 337 \*   E-W   HEIGHT = 8.0   WIDTH = 64.0   CONS = FLOORCON  
 \* 338 \*           AZIMUTH = 180   ..  
 \* 339 \*  
 \* 340 \*           DOOR   HEIGHT = 7.5   WIDTH = 3.0   CONS = DOORCON  
 \* 341 \*           MULTIPLIER = 4.0   ..  
 \* 342 \*  
 \* 343 \*   E-W   HEIGHT = 8.0   WIDTH = 122.5   CONS = FLOORCON  
 \* 344 \*           AZIMUTH = 270   ..  
 \* 345 \*

```

* 346 *      DOOR HEIGHT = 7.5 WIDTH = 3.0 CONS = DOORCON
* 347 *      MULTIPLIER = 9.0 ..
* 348 *
* 349 *      WINDOW HEIGHT = 4.0 WIDTH = 2.0 G-T = G_TYPE1
* 350 *      MULTIPLIER = 5.0 ..
* 351 *
* 352 *
* 353 * MER_A  =SPACE  AREA = 1.0 VOLUME = 1.0
* 354 *      ZONE-TYPE = CONDITIONED AREA/PERSON = 100.0
* 355 *      EQUIP-SCHEDULE = VEH_EXH EQUIPMENT-KW = 8.95
* 356 *      EQUIP-SENSIBLE = 0.0 INF-METHOD = NONE ..
* 357 *
* 358 *
* 359 * MER_B  =SPACE  AREA = 1.0 VOLUME = 1.0
* 360 *      ZONE-TYPE = CONDITIONED AREA/PERSON = 100.0
* 361 *      EQUIP-SCHEDULE = COMPR_SCHD EQUIPMENT-KW = 22.38
* 362 *      EQUIP-SENSIBLE = 0.0 SOURCE-SCHEDULE = HPHW_SCHD
* 363 *      SOURCE-TYPE = HOT-WATER SOURCE-BTU/HR = 499000.0
* 364 *      SOURCE-SENSIBLE = 0.0 INF-METHOD = NONE ..
* 365 *
* 366 *
* 367 * END ..
* 368 * COMPUTE LOADS ..
* 369 *
* 370 * INPUT SYSTEMS ..

```

# SDL PROCESSOR INPUT DATA

3/18/1995 9:45:19 SDL RUN 1

```

* 371 *
* 372 *
* 373 *      $-----$
* 374 *      $EZ-DOE SYSTEMS INPUT$
* 375 *      $-----$
* 376 *
* 377 *      $ GENERAL PROJECT DATA
* 378 *
* 379 * TITLE LINE-1 * EMC ENGINEERS INC. *
* 380 * LINE-2 *EZDOE - ELITE SOFTWARE DEVELOPMENT INC*
* 381 * LINE-3 * DENVER, CO 80227 *
* 382 *
* 383 * LINE-4 *BUILDING 10670, VEHICLE MAINT. SHOP *
* 384 * LINE-5 *BASE MODEL * ..
* 385 * ABORT ERRORS ..
* 386 * DIAGNOSTIC WARNINGS ..
* 387 * SYSTEMS-REPORT VERIFICATION=(SV-A,SV-B)

```

\* 388 \* SUMMARY=(SS-A,SS-C,SS-F,SS-I,SS-K,SS-L,SS-M,  
 \* 389 \* SS-O)  
 \* 390 \* HOURLY-DATA-SAVE = YES ..  
 \* 391 \*  
 \* 392 \* \$ SCHEDULES  
 \* 393 \*  
 \* 394 \* FULL\_ON\_D =DAY-SCHEDULE (1,24) (1.) ..  
 \* 395 \* FULL\_OFF\_D =DAY-SCHEDULE (1,24) (0.) ..  
 \* 396 \* HEAT60\_D =DAY-SCHEDULE (1,5) (47.)  
 \* 397 \* (6,16) (60.)  
 \* 398 \* (17,24) (47.) ..  
 \* 399 \* HEAT68\_D =DAY-SCHEDULE (1,24) (73.) ..  
 \* 400 \* COOL75\_D =DAY-SCHEDULE (1,24) (75.) ..  
 \* 401 \* COOL80\_D =DAY-SCHEDULE (1,24) (80.) ..  
 \* 402 \* MAUFANON\_D =DAY-SCHEDULE (1,5) (0.)  
 \* 403 \* (6,16) (1.)  
 \* 404 \* (17,24) (0.) ..  
 \* 405 \*  
 \* 406 \* FULL\_ON\_W =WEEK-SCHEDULE (ALL) FULL\_ON\_D ..  
 \* 407 \*  
 \* 408 \* FULL\_OFF\_W =WEEK-SCHEDULE (ALL) FULL\_OFF\_D ..  
 \* 409 \*  
 \* 410 \* HEAT60\_W =WEEK-SCHEDULE (ALL) HEAT60\_D ..  
 \* 411 \*  
 \* 412 \* HEAT68\_W =WEEK-SCHEDULE (ALL) HEAT68\_D ..  
 \* 413 \*  
 \* 414 \* COOL75\_W =WEEK-SCHEDULE (ALL) COOL75\_D ..  
 \* 415 \*  
 \* 416 \* COOL80\_W =WEEK-SCHEDULE (ALL) COOL80\_D ..  
 \* 417 \*  
 \* 418 \* MAUFANON\_W =WEEK-SCHEDULE (WD) MAUFANON\_D  
 \* 419 \* (WEH) FULL\_OFF\_D ..  
 \* 420 \*  
 \* 421 \*  
 \* 422 \* \$ FULL ON SCHEDULE  
 \* 423 \* FULL\_ON =SCHEDULE THRU DEC 31 FULL\_ON\_W ..  
 \* 424 \*  
 \* 425 \* \$ FULL OFF SCHEDULE  
 \* 426 \* FULL\_OFF =SCHEDULE THRU DEC 31 FULL\_OFF\_W ..  
 \* 427 \*  
 \* 428 \* \$ HEAT SCHEDULE 60 DEG  
 \* 429 \* HEAT60\_ON =SCHEDULE THRU MAY 15 HEAT60\_W  
 \* 430 \* THRU OCT 1 FULL\_OFF\_W  
 \* 431 \* THRU DEC 31 HEAT60\_W ..  
 \* 432 \*  
 \* 433 \* \$ HEAT SCHEDULE 68 DEG  
 \* 434 \* HEAT68\_ON =SCHEDULE THRU MAY 15 HEAT68\_W  
 \* 435 \* THRU OCT 1 FULL\_OFF\_W  
 \* 436 \* THRU DEC 31 HEAT68\_W ..  
 \* 437 \*

\* 438 \* \$ VENTILATION SCHD 75 DEG  
 \* 439 \* COOL75\_SCD =SCHEDULE THRU DEC 31 COO75\_W ..  
 \* 440 \*  
 \* 441 \* \$ VENTILATION SCHD 80 DEG  
 \* 442 \* COOL80\_SCH =SCHEDULE THRU DEC 31 COOL80\_W ..  
 \* 443 \*  
 \* 444 \* MAU\_FAN\_ON =SCHEDULE THRU DEC 31 MAUFANON\_W ..  
 \* 445 \*  
 \* 446 \*  
 \* 447 \*  
 \* 448 \*         \$ ZONE DESCRIPTION  
 \* 449 \*  
 \* 450 \* BAY\_WEST =ZONE DESIGN-HEAT-T = 60.0 DESIGN-COOL-T = 80.0  
 \* 451 \*         HEAT-TEMP-SCH = HEAT60\_ON ZONE-TYPE = CONDITIONED  
 \* 452 \*         THERMOSTAT-TYPE = PROPORTIONAL  
 \* 453 \*         BASEBOARD-CTRL = THERMOSTATIC  
 \* 454 \*         BASEBOARD-RATING = -509000. ASSIGNED-CFM = 16920.  
 \* 455 \*         OUTSIDE-AIR-CFM = 16920. SIZING-OPTION = FROM-LOADS ..  
 \* 456 \*  
 \* 457 \* BAY\_EAST =ZONE DESIGN-HEAT-T = 60.0 DESIGN-COOL-T = 80.0  
 \* 458 \*         HEAT-TEMP-SCH = HEAT60\_ON ZONE-TYPE = CONDITIONED  
 \* 459 \*         THERMOSTAT-TYPE = PROPORTIONAL  
 \* 460 \*         BASEBOARD-CTRL = THERMOSTATIC  
 \* 461 \*         BASEBOARD-RATING = -1109000. ASSIGNED-CFM = 20000.  
 \* 462 \*         OUTSIDE-AIR-CFM = 20000. SIZING-OPTION = FROM-LOADS  
 \* 463 \*         MIN-CFM-RATIO = 1.0 ..  
 \* 464 \*  
 \* 465 \* ADMIN =ZONE DESIGN-HEAT-T = 68.0 DESIGN-COOL-T = 75.0  
 \* 466 \*         HEAT-TEMP-SCH = HEAT68\_ON ZONE-TYPE = CONDITIONED  
 \* 467 \*         THERMOSTAT-TYPE = PROPORTIONAL THROTTLING-RANGE = 1.0  
 \* 468 \*         BASEBOARD-CTRL = THERMOSTATIC  
 \* 469 \*         BASEBOARD-RATING = -17400. ASSIGNED-CFM = 11410.  
 \* 470 \*         OUTSIDE-AIR-CFM = 1521. SIZING-OPTION = FROM-LOADS  
 \* 471 \*         EXHAUST-CFM = 1521.0 EXHAUST-STATIC = 1.0  
 \* 472 \*         HEATING-CAPACITY = -366100.0 ..  
 \* 473 \*  
 \* 474 \* MER\_A =ZONE DESIGN-HEAT-T = 70.0 DESIGN-COOL-T = 75.0  
 \* 475 \*         ZONE-TYPE = CONDITIONED  
 \* 476 \*         THERMOSTAT-TYPE = PROPORTIONAL THROTTLING-RANGE = 5.0  
 \* 477 \*         ASSIGNED-CFM = 10. OUTSIDE-AIR-CFM = 10.  
 \* 478 \*         SIZING-OPTION = FROM-LOADS ..  
 \* 479 \*  
 \* 480 \* MER\_B =ZONE DESIGN-HEAT-T = 70.0 DESIGN-COOL-T = 75.0  
 \* 481 \*         ZONE-TYPE = CONDITIONED  
 \* 482 \*         THERMOSTAT-TYPE = PROPORTIONAL THROTTLING-RANGE = 5.0  
 \* 483 \*         ASSIGNED-CFM = 10. OUTSIDE-AIR-CFM = 10.

ENERGY TYPE IN SITE MBTU-	STEAM	ELECTRICITY	RECOVERED
CATEGORY OF USE			
SPACE HEAT	5907.45	0.00	0.00
SPACE COOL	0.00	0.00	0.00
HVAC AUX	0.00	711.36	0.00
DOM HOT WTR	209.98	0.00	0.00
AUX SOLAR	0.00	0.00	0.00
LIGHTS	0.00	319.37	0.00
VERT TRANS	0.00	0.00	0.00
MISC EQUIP	0.00	508.87	0.00
	-----	-----	-----
TOTAL	6117.43	1539.60	0.00

TOTAL SITE ENERGY 7656.95 MBTU 175.9 KBTU/SQFT-YR GROSS-AREA 175.9 KBTU/SQFT-YR NET-AREA  
 TOTAL SOURCE ENERGY 10740.59 MBTU 246.8 KBTU/SQFT-YR GROSS-AREA 246.8 KBTU/SQFT-YR NET-AREA

PERCENT OF HOURS ANY SYSTEM ZONE OUTSIDE OF THROTTLING RANGE = 1.4  
 PERCENT OF HOURS ANY PLANT LOAD NOT SATISFIED = 0.0

NOTE ELECTRICITY AND/OR FUEL USED TO GENERATE ELECTRICITY IS APPORTIONED BASED  
 ON THE YEARLY DEMAND. ALL OTHER ENERGY TYPES ARE APPORTIONED HOURLY



MO	UTILITY- STEAM	ELECTRICITY
JAN	TOTAL(MBTU)	1413.532
	PEAK(KBTU)	123.02
	DY/HR	7163.902
		334.369
		5/12
		31/14
FEB	TOTAL(MBTU)	1000.59
	PEAK(KBTU)	113.625
	DY/HR	5576.215
		334.369
		4/12
		28/14
MAR	TOTAL(MBTU)	1006.788
	PEAK(KBTU)	127.882
	DY/HR	5650.362
		334.369
		9/ 7
		31/14
APR	TOTAL(MBTU)	472.404
	PEAK(KBTU)	120.456
	DY/HR	3654.961
		334.369
		1/ 7
		29/14
MAY	TOTAL(MBTU)	153.342
	PEAK(KBTU)	130.57
	DY/HR	2495.485
		448.943
		3/ 7
		18/14
JUN	TOTAL(MBTU)	26.583
	PEAK(KBTU)	137.821
	DY/HR	567.4
		448.943
		29/12
		7/14
JUL	TOTAL(MBTU)	28.295
	PEAK(KBTU)	145.954
	DY/HR	567.4
		448.943
		29/12
		20/14
AUG	TOTAL(MBTU)	28.08
	PEAK(KBTU)	136.12
	DY/HR	567.4
		424.643
		31/12
		31/14
SEP	TOTAL(MBTU)	29.569
	PEAK(KBTU)	132.526
	DY/HR	567.4
		424.643
		30/12
		30/14
OCT	TOTAL(MBTU)	336.654
	PEAK(KBTU)	122.954
	DY/HR	3054.925
		334.369
		28/ 8
		31/14
NOV	TOTAL(MBTU)	608.177
	PEAK(KBTU)	123.13
	DY/HR	4059.358
		334.369
		29/ 7
		30/14

DEC	TOTAL(MBTU)	1013.422	125.451
	PEAK(KBTU)	5483.246	334.369
	DY/HR	28/ 7	30/14
	ONE YEAR	6117.436	1539.509
	USE/PEAK	7163.902	448.943



**COMPUTER SIMULATIONS**  
BUILDING 10670

RUN 1 - SCHEDULE START/STOP AND NIGHT SETBACK

LDL PROCESSOR INPUT DATA

3/27/1995 12:30:31 LDL RUN 1

```

* 3 *
* 4 *
* 5 *
* 6 *          $-----$
* 7 *          $ E Z - D O E   L O A D S   I N P U T $
* 8 *          $-----$
* 9 *
* 10 *          $ GENERAL PROJECT DATA
* 11 * TITLE  LINE-1 *      EMC      ENGINEERS      INC.      *
* 12 *        LINE-2 *EZDOE - ELITE SOFTWARE DEVELOPMENT INC*
* 13 *        LINE-3 *      DENVER,      CO      80227      *
* 14 *
* 15 *        LINE-4 *BUILDING 10670, VEHICLE MAINT. SHOP      *
* 16 *        LINE-5 *MODEL WITH SET BACK, 50 F      * ..
* 17 *
* 18 * ABORT          ERRORS ..
* 19 * DIAGNOSTIC     WARNINGS ..
* 20 * LOADS-REPORT   SUMMARY=(LS-C,LS-D)
* 21 *              HOURLY-DATA-SAVE = YES ..
* 22 * BUILDING-LOCATION HOLIDAY = NO
* 23 *              X-REF = 0.0
* 24 *              Y-REF = 0.0 ..
* 25 * RUN-PERIOD     JAN 1 1994 THRU DEC 31 1994 ..
* 26 *
* 27 *
* 28 *          $ SCHEDULES
* 29 *
* 30 * FULL_ON_D  =DAY-SCHEDULE (1,24) (1.) ..
* 31 *
* 32 * FULL_OFF_D =DAY-SCHEDULE (1,24) (0.) ..
* 33 *
* 34 * LIGHT_ON_D =DAY-SCHEDULE (1,5) (0.23)
* 35 *              (6,7) (0.35)
* 36 *              (8,9) (0.5,0.6)
* 37 *              (10,11) (0.75)
* 38 *              (12) (0.5)
* 39 *              (13,14) (0.75)
* 40 *              (15) (0.5)
* 41 *              (16,18) (0.4)
* 42 *              (19) (0.3)
* 43 *              (20,24) (0.23) ..
* 44 *
* 45 * LT_ON_WKND =DAY-SCHEDULE (1,6) (0.23)
* 46 *              (7,19) (0.07)
* 47 *              (20,24) (0.23) ..
* 48 *
* 49 * PEOPLE_D   =DAY-SCHEDULE (1,5) (0.)
* 50 *              (6,7) (0.1,0.5)
* 51 *              (8,11) (1.)
* 52 *              (12) (0.8)
* 53 *              (13,16) (1.)
* 54 *              (17,18) (0.5,0.1)
* 55 *              (19,24) (0.) ..
* 56 *
* 57 * EQUIP_ON_D =DAY-SCHEDULE (1,5) (0.05)
* 58 *              (6,7) (0.1,0.2)
* 59 *              (8,9) (0.3)
* 60 *              (10,11) (0.4,0.7)
* 61 *              (12,13) (0.4)
* 62 *              (14,15) (0.8)
* 63 *              (16,18) (0.7,0.3,0.1)
* 64 *              (19,24) (0.05) ..
* 65 *
* 66 * SHOP_INF_D =DAY-SCHEDULE (1,24) (1.) ..
* 67 *
* 68 * HALF_ON    =DAY-SCHEDULE (1,24) (0.5) ..
* 69 *
* 70 * VENT_QURTD =DAY-SCHEDULE (1,11) (0.)
* 71 *              (12,17) (1.)
* 72 *              (18,24) (0.) ..
* 73 *
* 74 * VENT_HALFD =DAY-SCHEDULE (1,9) (0.)
* 75 *              (10,21) (1.)
* 76 *              (22,24) (0.) ..
* 77 *
* 78 * HPHW_D     =DAY-SCHEDULE (1,11) (0.)
* 79 *              (12) (1.)
* 80 *              (13,24) (0.) ..
* 81 *
* 82 * VEH_EXH_D  =DAY-SCHEDULE (1,5) (0.)
* 83 *              (6,16) (1.)
* 84 *              (17) (0.5)
* 85 *              (18,24) (0.) ..
* 86 *
* 87 * DHW_D      =DAY-SCHEDULE (1,5) (0.)
* 88 *              (6,8) (0.55)
* 89 *              (9,10) (0.5)
* 90 *              (11,15) (0.55,0.9,0.6,0.8,0.7)
* 91 *              (16) (0.75)
* 92 *              (17,18) (0.3)
* 93 *              (19,20) (0.4,0.05)
* 94 *              (21,24) (0.) ..
* 95 *
* 96 * COMPRESS_D =DAY-SCHEDULE (1,24) (0.33) ..
* 97 *
* 98 *
* 99 * FULL_ON_W   =WEEK-SCHEDULE (ALL) FULL_ON_D ..
* 100 *
* 101 * FULL_OFF_W =WEEK-SCHEDULE (ALL) FULL_OFF_D ..
* 102 *

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```

* 103 * LIGHT_ON_W =WEEK-SCHEDULE (WD) LIGHT_ON_D
* 104 * (WEH) LT_ON_WKND ..
* 105 *
* 106 * PEOPLE_W =WEEK-SCHEDULE (WD) PEOPLE_D
* 107 * (WEH) FULL_OFF_D ..
* 108 *
* 109 * EQUIP_W =WEEK-SCHEDULE (WD) EQUIP_ON_D
* 110 * (WEH) FULL_OFF_D ..
* 111 *
* 112 * SHOP_IFL_W =WEEK-SCHEDULE (WD) SHOP_INF_D
* 113 * (WEH) FULL_OFF_D ..
* 114 *
* 115 * UH_HALF_W =WEEK-SCHEDULE (ALL) HALF_ON ..
* 116 *
* 117 * VENT_QRT_W =WEEK-SCHEDULE (ALL) VENT_QURTD ..
* 118 *
* 119 * VENT_HLF_W =WEEK-SCHEDULE (ALL) VENT_HALFD ..
* 120 *
* 121 * HPHW_W =WEEK-SCHEDULE (MON) FULL_OFF_D
* 122 * (TUE) FULL_OFF_D
* 123 * (WED) HPHW_D
* 124 * (THU) FULL_OFF_D
* 125 * (FRI) HPHW_D
* 126 * (SAT) FULL_OFF_D
* 127 * (SUN) FULL_OFF_D
* 128 * (HOL) FULL_OFF_D ..
* 129 *
* 130 * VEH_EX_W =WEEK-SCHEDULE (WD) VEH_EXH_D
* 131 * (WEH) FULL_OFF_D ..
* 132 *
* 133 * DHW_W =WEEK-SCHEDULE (WD) DHW_D
* 134 * (WEH) FULL_OFF_D ..
* 135 *
* 136 * COMPRESS_W =WEEK-SCHEDULE (ALL) COMPRESS_D ..
* 137 *
* 138 *
* 139 * $ FULL OFF SCHEDULE
* 140 * FULL_OFF =SCHEDULE THRU DEC 31 FULL_OFF_W ..
* 141 *
* 142 * $ LIGHTING SCHEDULE
* 143 * LIGHT_SCHD =SCHEDULE THRU DEC 31 LIGHT_ON_W ..
* 144 *
* 145 * $ OCCUPANCY SCHEDULE
* 146 * PEOPLE_SCH =SCHEDULE THRU DEC 31 PEOPLE_W ..
* 147 *
* 148 * $ EQUIPMENT SCHEDULE
* 149 * EQUIP_SCHD =SCHEDULE THRU DEC 31 EQUIP_W ..
* 150 *
* 151 * $ SHOP INFILTRATION SCHED
* 152 * SHOP_INFIL =SCHEDULE THRU DEC 31 SHOP_IFL_W ..
* 153 *
* 154 * $ UNIT HEATER POWER CONS.
* 155 * UNIT_HEAT =SCHEDULE THRU MAR 15 FULL_ON_W
* 156 * THRU MAY 15 UH_HALF_W
* 157 * THRU OCT 1 FULL_OFF_W
* 158 * THRU NOV 15 UH_HALF_W
* 159 * THRU DEC 31 FULL_ON_W ..
* 160 *
* 161 * $ SUMMER EX FAN SCHEDULE
* 162 * VENT_ON =SCHEDULE THRU MAY 15 FULL_OFF_W
* 163 * THRU JUN 20 VENT_QRT_W
* 164 * THRU JUL 20 VENT_HLF_W
* 165 * THRU OCT 1 VENT_QRT_W
* 166 * THRU DEC 31 FULL_OFF_W ..
* 167 *
* 168 * $ FULL ON SCHEDULE
* 169 * FULL_ON =SCHEDULE THRU DEC 31 FULL_ON_W ..
* 170 *
* 171 * $ HIGH PRESS HW WASHER SD
* 172 * HPHW_SCHD =SCHEDULE THRU DEC 31 HPHW_W ..
* 173 *
* 174 * $ VEHICLE EXHAUST FAN SCH
* 175 * VEH_EXH =SCHEDULE THRU DEC 31 VEH_EX_W ..
* 176 *
* 177 * $ DHW SCHEDULE
* 178 * DHW_SCHD =SCHEDULE THRU DEC 31 DHW_W ..
* 179 *
* 180 * $ COMPRESSOR SCHEDULE
* 181 * COMPR_SCHD =SCHEDULE THRU DEC 31 COMPRESS_W ..
* 182 *
* 183 *
* 184 *
* 185 * $ CONSTRUCTION TYPES
* 186 *
* 187 *
* 188 *
* 189 * FLOORCON =CONSTRUCTION U-VALUE = 0.100 ..
* 190 *
* 191 * $ ADMINISTRATION ROOF CONSTRUCTION
* 192 * ADMROOF =CONSTRUCTION U-VALUE = 0.050 ..
* 193 *
* 194 * $ ROOF CONSTRUCTION
* 195 * ROOFCON =CONSTRUCTION U-VALUE = 0.050 ..
* 196 * WALLCON =CONSTRUCTION U-VALUE = 0.200 ..
* 197 * INWALL =CONSTRUCTION U-VALUE = 0.500 ..
* 198 * DOORCON =CONSTRUCTION U-VALUE = 0.400 ..
* 199 *
* 200 * G_TYPE1 =GLASS-TYPE SHADING-COEF = 1.000
* 201 * PANES = 1
* 202 * GLASS-CONDUCTANCE = 1.130 ..
* 203 *
* 204 *
* 205 *
* 206 *
* 207 * $ SPACE DESCRIPTION
* 208 *
* 209 * BAY_WEST =SPACE AREA = 11424.0 VOLUME = 342720.0
* 210 * TEMPERATURE = (55.) ZONE-TYPE = CONDITIONED

```

```

* 211 *      PEOPLE-SCHEDULE = PEOPLE SCH  NUMBER-OF-PEOPLE = 40.0
* 212 *      PEOPLE-HEAT-GAIN = 700.0  LIGHTING-TYPE = INCAND
* 213 *      LIGHTING-KW = 9.17  LIGHTING-SCHEDULE = LIGHT SCHD
* 214 *      EQUIP-SCHEDULE = VENT_ON  EQUIPMENT-KW = 14.92
* 215 *      EQUIP-SENSIBLE = 0.01  INF-METHOD = AIR-CHANGE
* 216 *      AIR-CHANGES/HR = 1.0  INF-SCHEDULE = SHOP_INFIL  ..
* 217 *
* 218 *      U-W      HEIGHT = 64.0  WIDTH = 178.5  CONS = FLOORCON ..
* 219 *
* 220 *      ROOF      HEIGHT = 64.0  WIDTH = 178.5  CONS = ROOFCON
* 221 *      TILT = 0  ..
* 222 *
* 223 *      E-W      HEIGHT = 30.0  WIDTH = 178.5  CONS = WALLCON
* 224 *      AZIMUTH = 0  ..
* 225 *
* 226 *      DOOR      HEIGHT = 14.0  WIDTH = 28.0  CONS = DOORCON
* 227 *      MULTIPLIER = 5.0  ..
* 228 *
* 229 *      DOOR      HEIGHT = 7.5  WIDTH = 3.0  CONS = DOORCON
* 230 *      MULTIPLIER = 2.0  ..
* 231 *
* 232 *      E-W      HEIGHT = 30.0  WIDTH = 178.5  CONS = WALLCON
* 233 *      AZIMUTH = 180  ..
* 234 *
* 235 *      DOOR      HEIGHT = 14.0  WIDTH = 28.0  CONS = DOORCON
* 236 *      MULTIPLIER = 5.0  ..
* 237 *
* 238 *      DOOR      HEIGHT = 7.5  WIDTH = 3.0  CONS = DOORCON
* 239 *      MULTIPLIER = 2.0  ..
* 240 *
* 241 *      E-W      HEIGHT = 30.0  WIDTH = 64.0  CONS = WALLCON
* 242 *      AZIMUTH = 270  ..
* 243 *
* 244 *      DOOR      HEIGHT = 7.5  WIDTH = 3.0  CONS = DOORCON
* 245 *      MULTIPLIER = 4.0  ..
* 246 *
* 247 *
* 248 *      BAY_EAST  =SPACE  AREA = 13504.0  VOLUME = 405120.0
* 249 *      TEMPERATURE = (55.)  ZONE-TYPE = CONDITIONED
* 250 *      PEOPLE-SCHEDULE = PEOPLE SCH  NUMBER-OF-PEOPLE = 40.0
* 251 *      PEOPLE-HEAT-GAIN = 700.0  LIGHTING-TYPE = INCAND
* 252 *      LIGHTING-KW = 9.54  LIGHTING-SCHEDULE = LIGHT SCHD
* 253 *      EQUIP-SCHEDULE = VENT_ON  EQUIPMENT-KW = 18.65
* 254 *      EQUIP-SENSIBLE = 0.01  SOURCE-SENSIBLE = 0.0
* 255 *      INF-METHOD = AIR-CHANGE  AIR-CHANGES/HR = 1.0
* 256 *      INF-SCHEDULE = SHOP_INFIL  ..
* 257 *
* 258 *      U-W      HEIGHT = 64.0  WIDTH = 178.5  CONS = FLOORCON ..
* 259 *
* 260 *      ROOF      HEIGHT = 64.0  WIDTH = 178.5  CONS = ROOFCON
* 261 *      TILT = 0  ..
* 262 *
* 263 *      E-W      HEIGHT = 30.0  WIDTH = 178.5  CONS = WALLCON
* 264 *      AZIMUTH = 0  ..
* 265 *
* 266 *      DOOR      HEIGHT = 14.0  WIDTH = 28.0  CONS = DOORCON
* 267 *      MULTIPLIER = 6.0  ..
* 268 *
* 269 *      DOOR      HEIGHT = 7.5  WIDTH = 3.0  CONS = DOORCON
* 270 *      MULTIPLIER = 2.0  ..
* 271 *
* 272 *      E-W      HEIGHT = 30.0  WIDTH = 178.5  CONS = WALLCON
* 273 *      AZIMUTH = 180  ..
* 274 *
* 275 *      DOOR      HEIGHT = 14.0  WIDTH = 28.0  CONS = DOORCON
* 276 *      MULTIPLIER = 6.0  ..
* 277 *
* 278 *      DOOR      HEIGHT = 7.5  WIDTH = 3.0  CONS = DOORCON
* 279 *      MULTIPLIER = 2.0  ..
* 280 *
* 281 *      E-W      HEIGHT = 30.0  WIDTH = 64.0  CONS = WALLCON
* 282 *      AZIMUTH = 90  ..
* 283 *
* 284 *      DOOR      HEIGHT = 7.5  WIDTH = 3.0  CONS = DOORCON
* 285 *      MULTIPLIER = 2.0  ..
* 286 *
* 287 *
* 288 *      ADMIN      =SPACE  AREA = 18592.0  VOLUME = 148736.0
* 289 *      TEMPERATURE = (68.)  ZONE-TYPE = CONDITIONED
* 290 *      PEOPLE-SCHEDULE = PEOPLE SCH  NUMBER-OF-PEOPLE = 40.0
* 291 *      PEOPLE-HEAT-GAIN = 550.0
* 292 *      LIGHTING-TYPE = REC-FLUOR-RV  LIGHTING-KW = 14.04
* 293 *      LIGHTING-SCHEDULE = LIGHT SCHD
* 294 *      EQUIP-SCHEDULE = EQUIP SCHD  EQUIPMENT-KW = 15.0
* 295 *      SOURCE-SCHEDULE = DHW_SCHD  SOURCE-TYPE = HOT-WATER
* 296 *      SOURCE-BTU/HR = 76000.0  SOURCE-SENSIBLE = 0.2
* 297 *      INF-METHOD = AIR-CHANGE  AIR-CHANGES/HR = 0.33
* 298 *      INF-SCHEDULE = FULL_ON  ..
* 299 *
* 300 *      U-W      HEIGHT = 64.0  WIDTH = 84.0  CONS = FLOORCON ..
* 301 *
* 302 *      ROOF      HEIGHT = 64.0  WIDTH = 84.0  CONS = FLOORCON
* 303 *      TILT = 0  ..
* 304 *
* 305 *      E-W      HEIGHT = 16.0  WIDTH = 84.0  CONS = FLOORCON
* 306 *      AZIMUTH = 0  ..
* 307 *
* 308 *      WINDOW      HEIGHT = 4.0  WIDTH = 2.0  G-T = G_TYPE1
* 309 *      MULTIPLIER = 10.0  ..
* 310 *
* 311 *      DOOR      HEIGHT = 7.5  WIDTH = 3.0  CONS = DOORCON
* 312 *      MULTIPLIER = 6.0  ..
* 313 *
* 314 *      E-W      HEIGHT = 16.0  WIDTH = 20.0  CONS = FLOORCON
* 315 *      AZIMUTH = 180  ..
* 316 *
* 317 *      WINDOW      HEIGHT = 4.0  WIDTH = 2.0  G-T = G_TYPE1
* 318 *      MULTIPLIER = 2.0  ..

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* 319 *
* 320 *          DOOR  HEIGHT = 7.5  WIDTH = 3.0  CONS = DOORCON
* 321 *          MULTIPLIER = 2.0  ..
* 322 *
* 323 *          U-W    HEIGHT = 122.5  WIDTH = 64.0  CONS = FLOORCON ..
* 324 *
* 325 *          ROOF    HEIGHT = 122.5  WIDTH = 64.0  CONS = FLOORCON
* 326 *          TILT = 0  ..
* 327 *
* 328 *          E-W     HEIGHT = 8.0  WIDTH = 122.5  CONS = FLOORCON
* 329 *          AZIMUTH = 90  ..
* 330 *
* 331 *          WINDOW  HEIGHT = 4.0  WIDTH = 2.0  G-T = G_TYPE1
* 332 *          MULTIPLIER = 6.0  ..
* 333 *
* 334 *          DOOR    HEIGHT = 7.5  WIDTH = 3.0  CONS = DOORCON
* 335 *          MULTIPLIER = 8.0  ..
* 336 *
* 337 *          E-W     HEIGHT = 8.0  WIDTH = 64.0  CONS = FLOORCON
* 338 *          AZIMUTH = 180  ..
* 339 *
* 340 *          DOOR    HEIGHT = 7.5  WIDTH = 3.0  CONS = DOORCON
* 341 *          MULTIPLIER = 4.0  ..
* 342 *
* 343 *          E-W     HEIGHT = 8.0  WIDTH = 122.5  CONS = FLOORCON
* 344 *          AZIMUTH = 270  ..
* 345 *
* 346 *          DOOR    HEIGHT = 7.5  WIDTH = 3.0  CONS = DOORCON
* 347 *          MULTIPLIER = 9.0  ..
* 348 *
* 349 *          WINDOW  HEIGHT = 4.0  WIDTH = 2.0  G-T = G_TYPE1
* 350 *          MULTIPLIER = 5.0  ..
* 351 *
* 352 *
* 353 *  MER_A      =SPACE  AREA = 1.0  VOLUME = 1.0
* 354 *              ZONE-TYPE = CONDITIONED  AREA/PERSON = 100.0
* 355 *              EQUIP-SCHEDULE = VEH_EXH  EQUIPMENT-KW = 8.95
* 356 *              EQUIP-SENSIBLE = 0.0  INF-METHOD = NONE  ..
* 357 *
* 358 *
* 359 *  MER_B      =SPACE  AREA = 1.0  VOLUME = 1.0
* 360 *              ZONE-TYPE = CONDITIONED  AREA/PERSON = 100.0
* 361 *              EQUIP-SCHEDULE = COMPR_SCHD  EQUIPMENT-KW = 22.38
* 362 *              EQUIP-SENSIBLE = 0.0  SOURCE-SCHEDULE = HPHW_SCHED
* 363 *              SOURCE-TYPE = HOT-WATER  SOURCE-BTU/HR = 499000.0
* 364 *              SOURCE-SENSIBLE = 0.0  INF-METHOD = NONE  ..
* 365 *
* 366 *
* 367 *  END  ..
* 368 *  COMPUTE LOADS  ..
* 369 *
* 370 *  INPUT SYSTEMS  ..

```



SDL PROCESSOR INPUT DATA

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* 371 *
* 372 *
* 373 *          $-----$
* 374 *          $ E Z - D O E   S Y S T E M S   I N P U T $
* 375 *          $-----$
* 376 *
* 377 *          $ GENERAL PROJECT DATA
* 378 *
* 379 * TITLE LINE-1 *      EMC      ENGINEERS      INC.      *
* 380 * LINE-2 *EZDOE - ELITE SOFTWARE DEVELOPMENT INC*
* 381 * LINE-3 *      DENVER,      CO      80227      *
* 382 *
* 383 * LINE-4 *BUILDING 10670, VEHICLE MAINT. SHOP      *
* 384 * LINE-5 *MODEL WITH SET BACK, 50 F      * ..
* 385 * ABORT      ERRORS ..
* 386 * DIAGNOSTIC  WARNINGS ..
* 387 * SYSTEMS-REPORT SUMMARY=(SS-A,SS-B,SS-C,SS-K,SS-L,SS-M,SS-O)
* 388 * HOURLY-DATA-SAVE = YES ..
* 389 *
* 390 *          $ SCHEDULES
* 391 *
* 392 * FULL_ON_D =DAY-SCHEDULE (1,24) (1.) ..
* 393 * FULL_OFF_D =DAY-SCHEDULE (1,24) (0.) ..
* 394 * HEAT60_D =DAY-SCHEDULE (1,5) (47.)
* 395 * (6,16) (60.)
* 396 * (17,24) (47.) ..
* 397 * HEAT68_D =DAY-SCHEDULE (1,24) (68.) ..
* 398 * COOL75_D =DAY-SCHEDULE (1,24) (75.) ..
* 399 * COOL80_D =DAY-SCHEDULE (1,24) (80.) ..
* 400 * MAUFANON_D =DAY-SCHEDULE (1,5) (0.)
* 401 * (6,16) (1.)
* 402 * (17,24) (0.) ..
* 403 * FAN_WSB_D =DAY-SCHEDULE (1,4) (0.)
* 404 * (5,16) (1.)
* 405 * (17,24) (0.) ..
* 406 * HT68_WSB_D =DAY-SCHEDULE (1,4) (50.)
* 407 * (5,16) (73.)
* 408 * (17,24) (50.) ..
* 409 * HEAT_50_D =DAY-SCHEDULE (1,24) (50.) ..
* 410 *
* 411 * FULL_ON_W =WEEK-SCHEDULE (ALL) FULL_ON_D ..
* 412 *
* 413 * FULL_OFF_W =WEEK-SCHEDULE (ALL) FULL_OFF_D ..
* 414 *
* 415 * HEAT60_W =WEEK-SCHEDULE (ALL) HEAT60_D ..
* 416 *
* 417 * HEAT68_W =WEEK-SCHEDULE (ALL) HEAT68_D ..
* 418 *
* 419 * COO75_W =WEEK-SCHEDULE (ALL) COOL75_D ..
* 420 *
* 421 * COOL80_W =WEEK-SCHEDULE (ALL) COOL80_D ..
* 422 *
* 423 * MAUFANON_W =WEEK-SCHEDULE (WD) MAUFANON_D
* 424 * (SAT) FULL_OFF_D
* 425 * (SUN) FULL_OFF_D
* 426 * (HOL) MAUFANON_D ..
* 427 *
* 428 * FAN_WSB_W =WEEK-SCHEDULE (WD) FAN_WSB_D
* 429 * (SAT) FULL_OFF_D
* 430 * (SUN) FULL_OFF_D
* 431 * (HOL) FAN_WSB_D ..
* 432 *
* 433 * HT68_WSB_W =WEEK-SCHEDULE (WD) HT68_WSB_D
* 434 * (SAT) HEAT_50_D
* 435 * (SUN) HEAT_50_D
* 436 * (HOL) HT68_WSB_D ..
* 437 *
* 438 *
* 439 * $ FULL ON SCHEDULE
* 440 * FULL_ON =SCHEDULE THRU DEC 31 FULL_ON_W ..
* 441 *
* 442 * $ FULL OFF SCHEDULE
* 443 * FULL_OFF =SCHEDULE THRU DEC 31 FULL_OFF_W ..
* 444 *
* 445 * $ HEAT SCHEDULE 60 DEG
* 446 * HEAT60_ON =SCHEDULE THRU MAY 15 HEAT60_W
* 447 * THRU OCT 1 FULL_OFF_W
* 448 * THRU DEC 31 HEAT60_W ..
* 449 *
* 450 * $ HEAT SCHEDULE 68 DEG
* 451 * HEAT68_ON =SCHEDULE THRU MAY 15 HEAT68_W
* 452 * THRU OCT 1 FULL_OFF_W
* 453 * THRU DEC 31 HEAT68_W ..
* 454 *
* 455 * $ VENTILATION SCHD 75 DEG
* 456 * COOL75_SCD =SCHEDULE THRU DEC 31 COO75_W ..
* 457 *
* 458 * $ VENTILATION SCHD 80 DEG
* 459 * COOL80_SCH =SCHEDULE THRU DEC 31 COOL80_W ..
* 460 *
* 461 * MAU_FAN_ON =SCHEDULE THRU DEC 31 MAUFANON_W ..
* 462 *
* 463 * $ SUPPLY FAN FOR ADMIN
* 464 * FAN_W_SB =SCHEDULE THRU DEC 31 FAN_WSB_W ..
* 465 *
* 466 * HT68_WSB =SCHEDULE THRU DEC 31 HT68_WSB_W ..
* 467 *
* 468 *
* 469 *
* 470 *          $ ZONE DESCRIPTION

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* 471 *
* 472 * BAY_WEST =ZONE DESIGN-HEAT-T = 60.0 DESIGN-COOL-T = 80.0
* 473 * HEAT-TEMP-SCH = HEAT60_ON ZONE-TYPE = CONDITIONED
* 474 * THERMOSTAT-TYPE = PROPORTIONAL
* 475 * BASEBOARD-CTRL = THERMOSTATIC
* 476 * BASEBOARD-RATING = -509000. ASSIGNED-CFM = 16920.
* 477 * OUTSIDE-AIR-CFM = 16920. SIZING-OPTION = FROM-LOADS ..
* 478 *
* 479 * BAY_EAST =ZONE DESIGN-HEAT-T = 60.0 DESIGN-COOL-T = 80.0
* 480 * HEAT-TEMP-SCH = HEAT60_ON ZONE-TYPE = CONDITIONED
* 481 * THERMOSTAT-TYPE = PROPORTIONAL
* 482 * BASEBOARD-CTRL = THERMOSTATIC
* 483 * BASEBOARD-RATING = -1109000. ASSIGNED-CFM = 20000.
* 484 * OUTSIDE-AIR-CFM = 20000. SIZING-OPTION = FROM-LOADS
* 485 * MIN-CFM-RATIO = 1.0 ..
* 486 *
* 487 * ADMIN =ZONE DESIGN-HEAT-T = 68.0 DESIGN-COOL-T = 75.0
* 488 * HEAT-TEMP-SCH = HT68_WSB ZONE-TYPE = CONDITIONED
* 489 * THERMOSTAT-TYPE = PROPORTIONAL THROTTLING-RANGE = 1.0
* 490 * BASEBOARD-CTRL = THERMOSTATIC
* 491 * BASEBOARD-RATING = -17400. ASSIGNED-CFM = 11410.
* 492 * OUTSIDE-AIR-CFM = 1521. SIZING-OPTION = FROM-LOADS
* 493 * EXHAUST-CFM = 1521.0 EXHAUST-STATIC = 1.0
* 494 * HEATING-CAPACITY = -366100.0 ..
* 495 *
* 496 * MER_A =ZONE DESIGN-HEAT-T = 70.0 DESIGN-COOL-T = 75.0
* 497 * ZONE-TYPE = CONDITIONED
* 498 * THERMOSTAT-TYPE = PROPORTIONAL THROTTLING-RANGE = 5.0
* 499 * ASSIGNED-CFM = 10. OUTSIDE-AIR-CFM = 10.
* 500 * SIZING-OPTION = FROM-LOADS ..
* 501 *
* 502 * MER_B =ZONE DESIGN-HEAT-T = 70.0 DESIGN-COOL-T = 75.0
* 503 * ZONE-TYPE = CONDITIONED
* 504 * THERMOSTAT-TYPE = PROPORTIONAL THROTTLING-RANGE = 5.0
* 505 * ASSIGNED-CFM = 10. OUTSIDE-AIR-CFM = 10.
* 506 * SIZING-OPTION = FROM-LOADS ..
* 507 *
* 508 *
* 509 * $ SYSTEM DESCRIPTION
* 510 *
* 511 * HV-2 =SYSTEM SYSTEM-TYPE = HVSYS
* 512 * MAX-SUPPLY-T = 120.0 MIN-HUMIDITY = 30.0
* 513 * ECONO-LIMIT-T = 65.0 ECONO-LOW-LIMIT = 55.0
* 514 * HEAT-CONTROL = COLDEST SUPPLY-CFM = 11410.
* 515 * RETURN-CFM = 9889. RATED-CFM = 11410.
* 516 * MIN-OUTSIDE-AIR = 0.13 FAN-SCHEDULE = FAN_W_SB
* 517 * SUPPLY-DELTA-T = 2.4 SUPPLY-KW = 0.00078
* 518 * MOTOR-PLACEMENT = OUTSIDE-AIRFLOW
* 519 * NIGHT-CYCLE-CTRL = CYCLE-ON-ANY NIGHT-VENT-DT = 0.0
* 520 * HEATING-CAPACITY = -366100. FURNACE-AUX = 0.
* 521 * RETURN-AIR-PATH = DUCT
* 522 * ZONE-NAMES = (ADMIN) ..
* 523 *
* 524 * MAU-3 =SYSTEM SYSTEM-TYPE = HVSYS
* 525 * MAX-SUPPLY-T = 70.0 MIN-HUMIDITY = 30.0
* 526 * ECONO-LIMIT-T = 65.0 ECONO-LOW-LIMIT = 55.0
* 527 * HEAT-CONTROL = COLDEST SUPPLY-CFM = 16920.
* 528 * RATED-CFM = 16920. MIN-OUTSIDE-AIR = 1.0
* 529 * FAN-SCHEDULE = MAU_FAN_ON SUPPLY-DELTA-T = 2.4
* 530 * SUPPLY-KW = 0.00078
* 531 * MOTOR-PLACEMENT = OUTSIDE-AIRFLOW
* 532 * NIGHT-CYCLE-CTRL = CYCLE-ON-ANY NIGHT-VENT-DT = 0.0
* 533 * HEATING-CAPACITY = -1408000. FURNACE-AUX = 0.
* 534 * RETURN-AIR-PATH = DUCT
* 535 * ZONE-NAMES = (BAY_WEST) ..
* 536 *
* 537 * MAU-4 =SYSTEM SYSTEM-TYPE = HVSYS
* 538 * MAX-SUPPLY-T = 70.0 MIN-HUMIDITY = 30.0
* 539 * ECONO-LIMIT-T = 65.0 ECONO-LOW-LIMIT = 55.0
* 540 * HEAT-CONTROL = COLDEST SUPPLY-CFM = 20000.
* 541 * RATED-CFM = 20000. MIN-OUTSIDE-AIR = 1.0
* 542 * FAN-SCHEDULE = MAU_FAN_ON SUPPLY-DELTA-T = 2.4
* 543 * SUPPLY-KW = 0.00078
* 544 * MOTOR-PLACEMENT = OUTSIDE-AIRFLOW
* 545 * NIGHT-CYCLE-CTRL = CYCLE-ON-ANY NIGHT-VENT-DT = 0.0
* 546 * HEATING-CAPACITY = -1664300. FURNACE-AUX = 0.
* 547 * RETURN-AIR-PATH = DUCT
* 548 * ZONE-NAMES = (BAY_EAST) ..
* 549 *
* 550 * IMAG_UH =SYSTEM SYSTEM-TYPE = UHT
* 551 * MAX-SUPPLY-T = 135.0 HEATING-SCHEDULE = FULL_OFF
* 552 * SUPPLY-DELTA-T = 0.18 SUPPLY-KW = 0.000059
* 553 * NIGHT-CYCLE-CTRL = CYCLE-ON-ANY FURNACE-AUX = 0.
* 554 * ZONE-NAMES = (MER_A, MER_B) ..
* 555 *
* 556 * END ..
* 557 * COMPUTE SYSTEMS ..
* 558 *
* 559 * INPUT PLANT ..

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PDL PROCESSOR INPUT DATA

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* 560 *
* 561 *
* 562 *
* 563 *      $-----$
* 564 *      $ E Z - D O E   P L A N T S   I N P U T $
* 565 *      $-----$
* 566 *
* 567 *      $ GENERAL PROJECT DATA
* 568 *
* 568 * TITLE LINE-1 *      EMC      ENGINEERS      INC.      *
* 569 *      LINE-2 *EZDOE - ELITE SOFTWARE DEVELOPMENT INC*
* 570 *      LINE-3 *      DENVER,      CO      80227      *
* 571 *
* 572 *      LINE-4 *BUILDING 10670, VEHICLE MAINT. SHOP      *
* 573 *      LINE-5 *MODEL WITH SET BACK, 50 F      * ..
* 574 *
* 575 * ABORT      ERRORS ..
* 576 * DIAGNOSTIC      WARNINGS ..
* 577 * PLANT-REPORT      SUMMARY=(PS-A,PS-B,PS-C,PS-H,BEPS)
* 578 *
* 579 *      HOURLY-DATA-SAVE = YES ..
* 580 *
* 581 *      $ SCHEDULES
* 582 *
* 583 *
* 584 *
* 585 *
* 586 *
* 587 *      $ EQUIPMENT DESCRIPTION
* 588 *
* 589 * HTP_2      =PLANT-EQUIPMENT      TYPE = HTANK-STORAGE
* 590 *      SIZE = 4.6 ..
* 591 *
* 592 * HPHW      =PLANT-EQUIPMENT      TYPE = HTANK-STORAGE
* 593 *      SIZE = 0.5 ..
* 594 *
* 595 * PLANT-PARAMETERS      CCIRC-HEAD = 33.0 ..
* 596 *
* 597 *
* 598 * ENERGY-RESOURCE      RESOURCE = ELECTRICITY ..
* 599 * ENERGY-RESOURCE      RESOURCE = STEAM      SOURCE-SITE-EFF = 1.000 ..
* 600 *
* 601 * ENERGY-STORAGE      HEAT-STORE-RATE = 4.62      HEAT-SUPPLY-RATE = 4.62
* 602 *      HTANK-BASE-T = 195.0      HTANK-T-RANGE = 5.0 ..
* 603 *
* 604 *      HEAT-RECOVERY
* 605 *      SUPPLY-1 = (HTANK-STORAGE,HTANK-STORAGE)
* 606 *      DEMAND-1 = (SPACE-HEAT,PROCESS-HEAT) ..
* 607 *
* 608 * HTP-2_ASGN =LOAD-ASSIGNMENT      TYPE = HEATING
* 609 *      OPERATION-MODE = RUN-NEEDED
* 610 *
* 611 *      LOAD-RANGE =      4.250
* 612 *      PLANT-EQUIPMENT = HTP_2
* 613 *      NUMBER =      1 ..
* 614 *
* 615 *
* 616 *
* 617 * END ..
* 618 * COMPUTE PLANT ..
* 619 * STOP ..

```

ENERGY TYPE IN SITE MBTU-	STEAM	ELECTRICITY
CATEGORY OF USE		
SPACE HEAT	5,504.44	0.00
SPACE COOL	0.00	0.00
HVAC AUX	0.00	500.18
DOM HOT WTR	209.98	0.00
AUX SOLAR	0.00	0.00
LIGHTS	0.00	319.36
VERT TRANS	0.00	0.00
MISC EQUIP	0.00	508.85
	-----	-----
TOTAL	5,714.42	1,328.39

TOTAL SITE ENERGY 7042.82 MBTU 161.8 KBTU/SQFT-YR GROSS-AREA 161.8 KBTU/SQFT-YR NET-AREA  
 TOTAL SOURCE ENERGY 9703.61 MBTU 223.0 KBTU/SQFT-YR GROSS-AREA 223.0 KBTU/SQFT-YR NET-AREA

PERCENT OF HOURS ANY SYSTEM ZONE OUTSIDE OF THROTTLING RANGE = 11.7  
 PERCENT OF HOURS ANY PLANT LOAD NOT SATISFIED = 0.0

NOTE ELECTRICITY AND/OR FUEL USED TO GENERATE ELECTRICITY IS APPORTIONED BASED  
 ON THE YEARLY DEMAND. ALL OTHER ENERGY TYPES ARE APPORTIONED HOURLY.

MO	UTILITY-	STEAM	ELECTRICITY
	TOTAL (MBTU)	1336.853	110.903
JAN	PEAK (KBTU)	7147.114	334.307
	DY/HR	5/12	31/14
	TOTAL (MBTU)	935.213	100.598
FEB	PEAK (KBTU)	5663.792	334.307
	DY/HR	4/12	28/14
	TOTAL (MBTU)	944.004	111.917
MAR	PEAK (KBTU)	5687.340	334.307
	DY/HR	9/ 7	31/14
	TOTAL (MBTU)	427.581	99.034
APR	PEAK (KBTU)	3797.999	334.307
	DY/HR	1/ 7	29/14
	TOTAL (MBTU)	148.396	110.794
MAY	PEAK (KBTU)	2690.921	448.882
	DY/HR	3/ 7	24/14
	TOTAL (MBTU)	31.091	122.321
JUN	PEAK (KBTU)	618.422	448.882
	DY/HR	8/12	24/14
	TOTAL (MBTU)	21.067	125.837
JUL	PEAK (KBTU)	567.400	428.404
	DY/HR	29/12	28/13
	TOTAL (MBTU)	26.200	119.008
AUG	PEAK (KBTU)	613.129	448.882
	DY/HR	26/12	30/14
	TOTAL (MBTU)	39.346	116.707
SEP	PEAK (KBTU)	684.483	448.882
	DY/HR	14/12	29/14
	TOTAL (MBTU)	300.649	99.378
OCT	PEAK (KBTU)	3154.721	334.307
	DY/HR	28/ 8	31/14
	TOTAL (MBTU)	559.876	102.996
NOV	PEAK (KBTU)	4204.876	334.307
	DY/HR	29/ 7	30/14
	TOTAL (MBTU)	944.146	108.905
DEC	PEAK (KBTU)	5538.580	334.307
	DY/HR	28/ 7	30/14
	ONE YEAR	5714.423	1328.401
	USE/PEAK	7147.114	448.882

**COMPUTER SIMULATIONS**  
**BUILDING 10670**

**RUN 3 - DDC**

LDL PROCESSOR INPUT DATA

3/18/1995 9:49:38 LDL RUN 1

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* 3 *
* 4 *
* 5 *
* 6 *
* 7 *
* 8 *
* 9 *
* 10 *
* 11 * TITLE LINE-1 * EMC ENGINEERS INC. *
* 12 * LINE-2 *EZDOE - ELITE SOFTWARE DEVELOPMENT INC*
* 13 * LINE-3 * DENVER, CO 80227 *
* 14 *
* 15 * LINE-4 *BUILDING 10670, VEHICLE MAINT. SHOP *
* 16 * LINE-5 *MODEL WITH SETBACK AND DDC * ..
* 17 *
* 18 * ABORT ERRORS ..
* 19 * DIAGNOSTIC WARNINGS ..
* 20 * LOADS-REPORT SUMMARY=(LS-C,LS-D)
* 21 * HOURLY-DATA-SAVE = YES ..
* 22 * BUILDING-LOCATION HOLIDAY = NO
* 23 * X-REF = 0.0
* 24 * Y-REF = 0.0 ..
* 25 * RUN-PERIOD JAN 1 1994 THRU DEC 31 1994 ..
* 26 *
* 27 *
* 28 * $ SCHEDULES
* 29 *
* 30 * FULL_ON_D =DAY-SCHEDULE (1,24) (1.) ..
* 31 *
* 32 * FULL_OFF_D =DAY-SCHEDULE (1,24) (0.) ..
* 33 *
* 34 * LIGHT_ON_D =DAY-SCHEDULE (1,5) (0.23)
* 35 * (6,7) (0.35)
* 36 * (8,9) (0.5,0.6)
* 37 * (10,11) (0.75)
* 38 * (12) (0.5)
* 39 * (13,14) (0.75)
* 40 * (15) (0.5)
* 41 * (16,18) (0.4)
* 42 * (19) (0.3)
* 43 * (20,24) (0.23) ..
* 44 *
* 45 * LT_ON_WKND =DAY-SCHEDULE (1,6) (0.23)
* 46 * (7,19) (0.07)
* 47 * (20,24) (0.23) ..
* 48 *
* 49 * PEOPLE_D =DAY-SCHEDULE (1,5) (0.)
* 50 * (6,7) (0.1,0.5)
* 51 * (8,11) (1.)
* 52 * (12) (0.8)
* 53 * (13,16) (1.)
* 54 * (17,18) (0.5,0.1)
* 55 * (19,24) (0.) ..
* 56 *
* 57 * EQUIP_ON_D =DAY-SCHEDULE (1,5) (0.05)
* 58 * (6,7) (0.1,0.2)
* 59 * (8,9) (0.3)
* 60 * (10,11) (0.4,0.7)
* 61 * (12,13) (0.4)
* 62 * (14,15) (0.8)
* 63 * (16,18) (0.7,0.3,0.1)
* 64 * (19,24) (0.05) ..
* 65 *
* 66 * SHOP_INF_D =DAY-SCHEDULE (1,24) (1.) ..
* 67 *
* 68 * HALF_ON =DAY-SCHEDULE (1,24) (0.5) ..
* 69 *
* 70 * VENT_QUIRTD =DAY-SCHEDULE (1,11) (0.)
* 71 * (12,17) (1.)
* 72 * (18,24) (0.) ..
* 73 *
* 74 * VENT_HALFD =DAY-SCHEDULE (1,9) (0.)
* 75 * (10,21) (1.)
* 76 * (22,24) (0.) ..
* 77 *
* 78 * HPHW_D =DAY-SCHEDULE (1,11) (0.)
* 79 * (12) (1.)
* 80 * (13,24) (0.) ..
* 81 *
* 82 * VEH_EXH_D =DAY-SCHEDULE (1,5) (0.)
* 83 * (6,16) (1.)
* 84 * (17) (0.5)
* 85 * (18,24) (0.) ..
* 86 *
* 87 * DHW_D =DAY-SCHEDULE (1,5) (0.)
* 88 * (6,8) (0.55)
* 89 * (9,10) (0.5)
* 90 * (11,15) (0.55,0.9,0.6,0.8,0.7)
* 91 * (16) (0.75)
* 92 * (17,18) (0.3)
* 93 * (19,20) (0.4,0.05)
* 94 * (21,24) (0.) ..
* 95 *
* 96 * COMPRESS_D =DAY-SCHEDULE (1,24) (0.33) ..
* 97 *
* 98 *
* 99 * FULL_ON_W =WEEK-SCHEDULE (ALL) FULL_ON_D ..
* 100 *
* 101 * FULL_OFF_W =WEEK-SCHEDULE (ALL) FULL_OFF_D ..
* 102 *

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* 103 * LIGHT_ON_W =WEEK-SCHEDULE (WD) LIGHT_ON_D
* 104 * (WEH) LT_ON_WKND ..
* 105 *
* 106 * PEOPLE_W =WEEK-SCHEDULE (WD) PEOPLE_D
* 107 * (WEH) FULL_OFF_D ..
* 108 *
* 109 * EQUIP_W =WEEK-SCHEDULE (WD) EQUIP_ON_D
* 110 * (WEH) FULL_OFF_D ..
* 111 *
* 112 * SHOP_IFL_W =WEEK-SCHEDULE (WD) SHOP_INF_D
* 113 * (WEH) FULL_OFF_D ..
* 114 *
* 115 * UH_HALF_W =WEEK-SCHEDULE (ALL) HALF_ON ..
* 116 *
* 117 * VENT_QRT_W =WEEK-SCHEDULE (ALL) VENT_QRTD ..
* 118 *
* 119 * VENT_HLF_W =WEEK-SCHEDULE (ALL) VENT_HALFD ..
* 120 *
* 121 * HPHW_W =WEEK-SCHEDULE (MON) FULL_OFF_D
* 122 * (TUE) FULL_OFF_D
* 123 * (WED) HPHW_D
* 124 * (THU) FULL_OFF_D
* 125 * (FRI) HPHW_D
* 126 * (SAT) FULL_OFF_D
* 127 * (SUN) FULL_OFF_D
* 128 * (HOL) FULL_OFF_D ..
* 129 *
* 130 * VEH_EX_W =WEEK-SCHEDULE (WD) VEH_EXH_D
* 131 * (WEH) FULL_OFF_D ..
* 132 *
* 133 * DHW_W =WEEK-SCHEDULE (WD) DHW_D
* 134 * (WEH) FULL_OFF_D ..
* 135 *
* 136 * COMPRESS_W =WEEK-SCHEDULE (ALL) COMPRESS_D ..
* 137 *
* 138 *
* 139 * $ FULL OFF SCHEDULE
* 140 * FULL_OFF =SCHEDULE THRU DEC 31 FULL_OFF_W ..
* 141 *
* 142 * $ LIGHTING SCHEDULE
* 143 * LIGHT_SCHD =SCHEDULE THRU DEC 31 LIGHT_ON_W ..
* 144 *
* 145 * $ OCCUPANCY SCHEDULE
* 146 * PEOPLE_SCH =SCHEDULE THRU DEC 31 PEOPLE_W ..
* 147 *
* 148 * $ EQUIPMENT SCHEDULE
* 149 * EQUIP_SCHD =SCHEDULE THRU DEC 31 EQUIP_W ..
* 150 *
* 151 * $ SHOP INFILTRATION SCHED
* 152 * SHOP_INFIL =SCHEDULE THRU DEC 31 SHOP_IFL_W ..
* 153 *
* 154 * $ UNIT HEATER POWER CONS.
* 155 * UNIT_HEAT =SCHEDULE THRU MAR 15 FULL_ON_W
* 156 * THRU MAY 15 UH_HALF_W
* 157 * THRU OCT 1 FULL_OFF_W
* 158 * THRU NOV 15 UH_HALF_W
* 159 * THRU DEC 31 FULL_ON_W ..
* 160 *
* 161 * $ SUMMER EX FAN SCHEDULE
* 162 * VENT_ON =SCHEDULE THRU MAY 15 FULL_OFF_W
* 163 * THRU JUN 20 VENT_QRT_W
* 164 * THRU JUL 20 VENT_HLF_W
* 165 * THRU OCT 1 VENT_QRT_W
* 166 * THRU DEC 31 FULL_OFF_W ..
* 167 *
* 168 * $ FULL ON SCHEDULE
* 169 * FULL_ON =SCHEDULE THRU DEC 31 FULL_ON_W ..
* 170 *
* 171 * $ HIGH PRESS HW WASHER SD
* 172 * HPHW_SCHD =SCHEDULE THRU DEC 31 HPHW_W ..
* 173 *
* 174 * $ VEHICLE EXHAUST FAN SCH
* 175 * VEH_EXH =SCHEDULE THRU DEC 31 VEH_EX_W ..
* 176 *
* 177 * $ DHW SCHEDULE
* 178 * DHW_SCHD =SCHEDULE THRU DEC 31 DHW_W ..
* 179 *
* 180 * $ COMPRESSOR SCHEDULE
* 181 * COMPR_SCHD =SCHEDULE THRU DEC 31 COMPRESS_W ..
* 182 *
* 183 *
* 184 *
* 185 * $ CONSTRUCTION TYPES
* 186 *
* 187 *
* 188 *
* 189 * FLOORCON =CONSTRUCTION U-VALUE = 0.100 ..
* 190 *
* 191 * $ ADMINISTRATION ROOF CONSTRUCTION
* 192 * ADMROOF =CONSTRUCTION U-VALUE = 0.050 ..
* 193 *
* 194 * $ ROOF CONSTRUCTION
* 195 * ROOFCON =CONSTRUCTION U-VALUE = 0.050 ..
* 196 * WALLCON =CONSTRUCTION U-VALUE = 0.200 ..
* 197 * INWALL =CONSTRUCTION U-VALUE = 0.500 ..
* 198 * DOORCON =CONSTRUCTION U-VALUE = 0.400 ..
* 199 *
* 200 * G_TYPE1 =GLASS-TYPE SHADING-COEF = 1.000
* 201 * PANES = 1
* 202 * GLASS-CONDUCTANCE = 1.130 ..
* 203 *
* 204 *
* 205 *
* 206 *
* 207 * $ SPACE DESCRIPTION
* 208 *
* 209 * BAY_WEST =SPACE AREA = 11424.0 VOLUME = 342720.0
* 210 * TEMPERATURE = (55.) ZONE-TYPE = CONDITIONED

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* 211 *      PEOPLE-SCHEDULE = PEOPLE SCH NUMBER-OF-PEOPLE = 40.0
* 212 *      PEOPLE-HEAT-GAIN = 700.0 LIGHTING-TYPE = INCAND
* 213 *      LIGHTING-KW = 9.17 LIGHTING-SCHEDULE = LIGHT SCHD
* 214 *      EQUIP-SCHEDULE = VENT ON EQUIPMENT-KW = 14.92
* 215 *      EQUIP-SENSIBLE = 0.01 INF-METHOD = AIR-CHANGE
* 216 *      AIR-CHANGES/HR = 1.0 INF-SCHEDULE = SHOP_INFIL ..
* 217 *
* 218 *      U-W      HEIGHT = 64.0 WIDTH = 178.5 CONS = FLOORCON ..
* 219 *
* 220 *      ROOF      HEIGHT = 64.0 WIDTH = 178.5 CONS = ROOFCON
* 221 *      TILT = 0 ..
* 222 *
* 223 *      E-W      HEIGHT = 30.0 WIDTH = 178.5 CONS = WALLCON
* 224 *      AZIMUTH = 0 ..
* 225 *
* 226 *      DOOR      HEIGHT = 14.0 WIDTH = 28.0 CONS = DOORCON
* 227 *      MULTIPLIER = 5.0 ..
* 228 *
* 229 *      DOOR      HEIGHT = 7.5 WIDTH = 3.0 CONS = DOORCON
* 230 *      MULTIPLIER = 2.0 ..
* 231 *
* 232 *      E-W      HEIGHT = 30.0 WIDTH = 178.5 CONS = WALLCON
* 233 *      AZIMUTH = 180 ..
* 234 *
* 235 *      DOOR      HEIGHT = 14.0 WIDTH = 28.0 CONS = DOORCON
* 236 *      MULTIPLIER = 5.0 ..
* 237 *
* 238 *      DOOR      HEIGHT = 7.5 WIDTH = 3.0 CONS = DOORCON
* 239 *      MULTIPLIER = 2.0 ..
* 240 *
* 241 *      E-W      HEIGHT = 30.0 WIDTH = 64.0 CONS = WALLCON
* 242 *      AZIMUTH = 270 ..
* 243 *
* 244 *      DOOR      HEIGHT = 7.5 WIDTH = 3.0 CONS = DOORCON
* 245 *      MULTIPLIER = 4.0 ..
* 246 *
* 247 *
* 248 *      BAY_EAST =SPACE      AREA = 13504.0 VOLUME = 405120.0
* 249 *      TEMPERATURE = (55.) ZONE-TYPE = CONDITIONED
* 250 *      PEOPLE-SCHEDULE = PEOPLE SCH NUMBER-OF-PEOPLE = 40.0
* 251 *      PEOPLE-HEAT-GAIN = 700.0 LIGHTING-TYPE = INCAND
* 252 *      LIGHTING-KW = 9.54 LIGHTING-SCHEDULE = LIGHT SCHD
* 253 *      EQUIP-SCHEDULE = VENT ON EQUIPMENT-KW = 18.65
* 254 *      EQUIP-SENSIBLE = 0.01 SOURCE-SENSIBLE = 0.0
* 255 *      INF-METHOD = AIR-CHANGE AIR-CHANGES/HR = 1.0
* 256 *      INF-SCHEDULE = SHOP_INFIL ..
* 257 *
* 258 *      U-W      HEIGHT = 64.0 WIDTH = 178.5 CONS = FLOORCON ...
* 259 *
* 260 *      ROOF      HEIGHT = 64.0 WIDTH = 178.5 CONS = ROOFCON
* 261 *      TILT = 0 ..
* 262 *
* 263 *      E-W      HEIGHT = 30.0 WIDTH = 178.5 CONS = WALLCON
* 264 *      AZIMUTH = 0 ..
* 265 *
* 266 *      DOOR      HEIGHT = 14.0 WIDTH = 28.0 CONS = DOORCON
* 267 *      MULTIPLIER = 6.0 ..
* 268 *
* 269 *      DOOR      HEIGHT = 7.5 WIDTH = 3.0 CONS = DOORCON
* 270 *      MULTIPLIER = 2.0 ..
* 271 *
* 272 *      E-W      HEIGHT = 30.0 WIDTH = 178.5 CONS = WALLCON
* 273 *      AZIMUTH = 180 ..
* 274 *
* 275 *      DOOR      HEIGHT = 14.0 WIDTH = 28.0 CONS = DOORCON
* 276 *      MULTIPLIER = 6.0 ..
* 277 *
* 278 *      DOOR      HEIGHT = 7.5 WIDTH = 3.0 CONS = DOORCON
* 279 *      MULTIPLIER = 2.0 ..
* 280 *
* 281 *      E-W      HEIGHT = 30.0 WIDTH = 64.0 CONS = WALLCON
* 282 *      AZIMUTH = 90 ..
* 283 *
* 284 *      DOOR      HEIGHT = 7.5 WIDTH = 3.0 CONS = DOORCON
* 285 *      MULTIPLIER = 2.0 ..
* 286 *
* 287 *
* 288 *      ADMIN    =SPACE      AREA = 18592.0 VOLUME = 148736.0
* 289 *      TEMPERATURE = (68.) ZONE-TYPE = CONDITIONED
* 290 *      PEOPLE-SCHEDULE = PEOPLE SCH NUMBER-OF-PEOPLE = 40.0
* 291 *      PEOPLE-HEAT-GAIN = 550.0
* 292 *      LIGHTING-TYPE = REC-FLUOR-RV LIGHTING-KW = 14.04
* 293 *      LIGHTING-SCHEDULE = LIGHT SCHD
* 294 *      EQUIP-SCHEDULE = EQUIP SCHD EQUIPMENT-KW = 15.0
* 295 *      SOURCE-SCHEDULE = DHW SCHD SOURCE-TYPE = HOT-WATER
* 296 *      SOURCE-BTU/HR = 76000.0 SOURCE-SENSIBLE = 0.2
* 297 *      INF-METHOD = AIR-CHANGE AIR-CHANGES/HR = 0.33
* 298 *      INF-SCHEDULE = FULL_ON ..
* 299 *
* 300 *      U-W      HEIGHT = 64.0 WIDTH = 84.0 CONS = FLOORCON ..
* 301 *
* 302 *      ROOF      HEIGHT = 64.0 WIDTH = 84.0 CONS = FLOORCON
* 303 *      TILT = 0 ..
* 304 *
* 305 *      E-W      HEIGHT = 16.0 WIDTH = 84.0 CONS = FLOORCON
* 306 *      AZIMUTH = 0 ..
* 307 *
* 308 *      WINDOW    HEIGHT = 4.0 WIDTH = 2.0 G-T = G_TYPE1
* 309 *      MULTIPLIER = 10.0 ..
* 310 *
* 311 *      DOOR      HEIGHT = 7.5 WIDTH = 3.0 CONS = DOORCON
* 312 *      MULTIPLIER = 6.0 ..
* 313 *
* 314 *      E-W      HEIGHT = 16.0 WIDTH = 20.0 CONS = FLOORCON
* 315 *      AZIMUTH = 180 ..
* 316 *
* 317 *      WINDOW    HEIGHT = 4.0 WIDTH = 2.0 G-T = G_TYPE1
* 318 *      MULTIPLIER = 2.0 ..

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* 319 *
* 320 *      DOOR  HEIGHT = 7.5  WIDTH = 3.0  CONS = DOORCON
* 321 *      MULTIPLIER = 2.0  ..
* 322 *
* 323 *      U-W    HEIGHT = 122.5  WIDTH = 64.0  CONS = FLOORCON ..
* 324 *
* 325 *      ROOF   HEIGHT = 122.5  WIDTH = 64.0  CONS = FLOORCON
* 326 *      TILT = 0  ..
* 327 *
* 328 *      E-W    HEIGHT = 8.0  WIDTH = 122.5  CONS = FLOORCON
* 329 *      AZIMUTH = 90  ..
* 330 *
* 331 *      WINDOW HEIGHT = 4.0  WIDTH = 2.0  G-T = G_TYPE1
* 332 *      MULTIPLIER = 6.0  ..
* 333 *
* 334 *      DOOR  HEIGHT = 7.5  WIDTH = 3.0  CONS = DOORCON
* 335 *      MULTIPLIER = 8.0  ..
* 336 *
* 337 *      E-W    HEIGHT = 8.0  WIDTH = 64.0  CONS = FLOORCON
* 338 *      AZIMUTH = 180  ..
* 339 *
* 340 *      DOOR  HEIGHT = 7.5  WIDTH = 3.0  CONS = DOORCON
* 341 *      MULTIPLIER = 4.0  ..
* 342 *
* 343 *      E-W    HEIGHT = 8.0  WIDTH = 122.5  CONS = FLOORCON
* 344 *      AZIMUTH = 270  ..
* 345 *
* 346 *      DOOR  HEIGHT = 7.5  WIDTH = 3.0  CONS = DOORCON
* 347 *      MULTIPLIER = 9.0  ..
* 348 *
* 349 *      WINDOW HEIGHT = 4.0  WIDTH = 2.0  G-T = G_TYPE1
* 350 *      MULTIPLIER = 5.0  ..
* 351 *
* 352 *
* 353 * MER_A    =SPACE  AREA = 1.0  VOLUME = 1.0
* 354 *          ZONE-TYPE = CONDITIONED  AREA/PERSON = 100.0
* 355 *          EQUIP-SCHEDULE = VEH_EXH  EQUIPMENT-KW = 8.95
* 356 *          EQUIP-SENSIBLE = 0.0  INF-METHOD = NONE  ..
* 357 *
* 358 *
* 359 * MER_B    =SPACE  AREA = 1.0  VOLUME = 1.0
* 360 *          ZONE-TYPE = CONDITIONED  AREA/PERSON = 100.0
* 361 *          EQUIP-SCHEDULE = COMPR_SCHD  EQUIPMENT-KW = 22.38
* 362 *          EQUIP-SENSIBLE = 0.0  SOURCE-SCHEDULE = HPHW_SCHD
* 363 *          SOURCE-TYPE = HOT-WATER  SOURCE-BTU/HR = 499000.0
* 364 *          SOURCE-SENSIBLE = 0.0  INF-METHOD = NONE  ..
* 365 *
* 366 *
* 367 * END  ..
* 368 * COMPUTE LOADS  ..
* 369 *
* 370 * INPUT SYSTEMS  ..

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SDL PROCESSOR INPUT DATA

3/18/1995 9:49:38 SDL RUN 1

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* 371 *
* 372 *
* 373 *
* 374 *          $-----$
* 375 *          $ E Z - D O E   S Y S T E M S   I N P U T $
* 376 *          $-----$
* 377 *
* 378 *          $ GENERAL PROJECT DATA
* 379 *
* 379 * TITLE  LINE-1 *      EMC      ENGINEERS      INC.      *
* 380 *          LINE-2 *EZDOE - ELITE SOFTWARE DEVELOPMENT INC*
* 381 *          LINE-3 *      DENVER,      CO      80227      *
* 382 *
* 383 *          LINE-4 *BUILDING 10670, VEHICLE MAINT. SHOP      *
* 384 *          LINE-5 *MODEL WITH SETBACK AND DDC      * ..
* 385 * ABORT      ERRORS      ..
* 386 * DIAGNOSTIC  WARNINGS ..
* 387 * SYSTEMS-REPORT VERIFICATION=(SV-A,SV-B)
* 388 *          SUMMARY=(SS-A,SS-C,SS-F,SS-I,SS-K,SS-L,SS-M,
* 389 *          SS-O)
* 390 *          HOURLY-DATA-SAVE = YES ..
* 391 *
* 392 *          $ SCHEDULES
* 393 *
* 394 * FULL_ON_D  =DAY-SCHEDULE (1,24) (1.) ..
* 395 * FULL_OFF_D =DAY-SCHEDULE (1,24) (0.) ..
* 396 * HEAT60_D  =DAY-SCHEDULE (1,5) (47.)
* 397 *          (6,16) (60.)
* 398 *          (17,24) (47.) ..
* 399 * HEAT68_D  =DAY-SCHEDULE (1,24) (68.) ..
* 400 * COOL75_D  =DAY-SCHEDULE (1,24) (75.) ..
* 401 * COOL80_D  =DAY-SCHEDULE (1,24) (80.) ..
* 402 * MAUFANON_D =DAY-SCHEDULE (1,5) (0.)
* 403 *          (6,16) (1.)
* 404 *          (17,24) (0.) ..
* 405 * FAN_WSB_D =DAY-SCHEDULE (1,4) (0.)
* 406 *          (5,16) (1.)
* 407 *          (17,24) (0.) ..
* 408 * HT68_WSB_D =DAY-SCHEDULE (1,4) (50.)
* 409 *          (5,16) (68.)
* 410 *          (17,24) (50.) ..
* 411 * HEAT_50_D =DAY-SCHEDULE (1,24) (50.) ..
* 412 *
* 413 * FULL_ON_W  =WEEK-SCHEDULE (ALL) FULL_ON_D ..
* 414 *
* 415 * FULL_OFF_W =WEEK-SCHEDULE (ALL) FULL_OFF_D ..
* 416 *
* 417 * HEAT60_W  =WEEK-SCHEDULE (ALL) HEAT60_D ..
* 418 *
* 419 * HEAT68_W  =WEEK-SCHEDULE (ALL) HEAT68_D ..
* 420 *
* 421 * COO75_W   =WEEK-SCHEDULE (ALL) COOL75_D ..
* 422 *
* 423 * COOL80_W  =WEEK-SCHEDULE (ALL) COOL80_D ..
* 424 *
* 425 * MAUFANON_W =WEEK-SCHEDULE (WD) MAUFANON_D
* 426 *          (SAT) FULL_OFF_D
* 427 *          (SUN) FULL_OFF_D
* 428 *          (HOL) MAUFANON_D ..
* 429 *
* 430 * FAN_WSB_W  =WEEK-SCHEDULE (WD) FAN_WSB_D
* 431 *          (SAT) FULL_OFF_D
* 432 *          (SUN) FULL_OFF_D
* 433 *          (HOL) FAN_WSB_D ..
* 434 *
* 435 * HT68_WSB_W =WEEK-SCHEDULE (WD) HT68_WSB_D
* 436 *          (SAT) HEAT_50_D
* 437 *          (SUN) HEAT_50_D
* 438 *          (HOL) HT68_WSB_D ..
* 439 *
* 440 *
* 441 * $ FULL ON SCHEDULE
* 442 * FULL_ON    =SCHEDULE THRU DEC 31 FULL_ON_W ..
* 443 *
* 444 * $ FULL OFF SCHEDULE
* 445 * FULL_OFF   =SCHEDULE THRU DEC 31 FULL_OFF_W ..
* 446 *
* 447 * $ HEAT SCHEDULE 60 DEG
* 448 * HEAT60_ON =SCHEDULE THRU MAY 15 HEAT60_W
* 449 *          THRU OCT 1 FULL_OFF_W
* 450 *          THRU DEC 31 HEAT60_W ..
* 451 *
* 452 * $ HEAT SCHEDULE 68 DEG
* 453 * HEAT68_ON =SCHEDULE THRU MAY 15 HEAT68_W
* 454 *          THRU OCT 1 FULL_OFF_W
* 455 *          THRU DEC 31 HEAT68_W ..
* 456 *
* 457 * $ VENTILATION SCHD 75 DEG
* 458 * COOL75_SCD =SCHEDULE THRU DEC 31 COO75_W ..
* 459 *
* 460 * $ VENTILATION SCHD 80 DEG
* 461 * COOL80_SCH =SCHEDULE THRU DEC 31 COOL80_W ..
* 462 *
* 463 * MAU_FAN_ON =SCHEDULE THRU DEC 31 MAUFANON_W ..
* 464 *
* 465 * $ SUPPLY FAN FOR ADMIN
* 466 * FAN_W_SB   =SCHEDULE THRU DEC 31 FAN_WSB_W ..
* 467 *
* 468 * HT68_WSB   =SCHEDULE THRU DEC 31 HT68_WSB_W ..
* 469 *
* 470 *

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* 471 *
* 472 *           $ ZONE DESCRIPTION
* 473 *
* 474 * BAY_WEST  =ZONE  DESIGN-HEAT-T = 60.0  DESIGN-COOL-T = 80.0
* 475 *              HEAT-TEMP-SCH = HEAT60_ON  ZONE-TYPE = CONDITIONED
* 476 *              THERMOSTAT-TYPE = PROPORTIONAL
* 477 *              BASEBOARD-CTRL = THERMOSTATIC
* 478 *              BASEBOARD-RATING = -509000.  ASSIGNED-CFM = 16920.
* 479 *              OUTSIDE-AIR-CFM = 16920.  SIZING-OPTION = FROM-LOADS  ..
* 480 *
* 481 * BAY_EAST  =ZONE  DESIGN-HEAT-T = 60.0  DESIGN-COOL-T = 80.0
* 482 *              HEAT-TEMP-SCH = HEAT60_ON  ZONE-TYPE = CONDITIONED
* 483 *              THERMOSTAT-TYPE = PROPORTIONAL
* 484 *              BASEBOARD-CTRL = THERMOSTATIC
* 485 *              BASEBOARD-RATING = -1109000.  ASSIGNED-CFM = 20000.
* 486 *              OUTSIDE-AIR-CFM = 20000.  SIZING-OPTION = FROM-LOADS
* 487 *              MIN-CFM-RATIO = 1.0  ..
* 488 *
* 489 * ADMIN      =ZONE  DESIGN-HEAT-T = 68.0  DESIGN-COOL-T = 75.0
* 490 *              HEAT-TEMP-SCH = HT68_WSB  ZONE-TYPE = CONDITIONED
* 491 *              THERMOSTAT-TYPE = PROPORTIONAL  THROTTLING-RANGE = 1.0
* 492 *              BASEBOARD-CTRL = THERMOSTATIC
* 493 *              BASEBOARD-RATING = -17400.  ASSIGNED-CFM = 11410.
* 494 *              OUTSIDE-AIR-CFM = 1521.  SIZING-OPTION = FROM-LOADS
* 495 *              EXHAUST-CFM = 1521.0  EXHAUST-STATIC = 1.0
* 496 *              HEATING-CAPACITY = -366100.0  ..
* 497 *
* 498 * MER_A      =ZONE  DESIGN-HEAT-T = 70.0  DESIGN-COOL-T = 75.0
* 499 *              ZONE-TYPE = CONDITIONED
* 500 *              THERMOSTAT-TYPE = PROPORTIONAL  THROTTLING-RANGE = 5.0
* 501 *              ASSIGNED-CFM = 10.  OUTSIDE-AIR-CFM = 10.
* 502 *              SIZING-OPTION = FROM-LOADS  ..
* 503 *
* 504 * MER_B      =ZONE  DESIGN-HEAT-T = 70.0  DESIGN-COOL-T = 75.0
* 505 *              ZONE-TYPE = CONDITIONED
* 506 *              THERMOSTAT-TYPE = PROPORTIONAL  THROTTLING-RANGE = 5.0
* 507 *              ASSIGNED-CFM = 10.  OUTSIDE-AIR-CFM = 10.
* 508 *              SIZING-OPTION = FROM-LOADS  ..
* 509 *
* 510 *
* 511 *           $ SYSTEM DESCRIPTION
* 512 *
* 513 * HV-2        =SYSTEM  SYSTEM-TYPE = HVSYS
* 514 *              MAX-SUPPLY-T = 120.0  MIN-HUMIDITY = 30.0
* 515 *              ECONO-LIMIT-T = 65.0  ECONO-LOW-LIMIT = 55.0
* 516 *              HEAT-CONTROL = COLDEST  SUPPLY-CFM = 11410.
* 517 *              RETURN-CFM = 9889.  RATED-CFM = 11410.
* 518 *              MIN-OUTSIDE-AIR = 0.13  FAN-SCHEDULE = FAN_W_SB
* 519 *              SUPPLY-DELTA-T = 2.4  SUPPLY-KW = 0.00078
* 520 *              MOTOR-PLACEMENT = OUTSIDE-AIRFLOW
* 521 *              NIGHT-CYCLE-CTRL = CYCLE-ON-ANY  NIGHT-VENT-DT = 0.0
* 522 *              HEATING-CAPACITY = -366100.  FURNACE-AUX = 0.
* 523 *              RETURN-AIR-PATH = DUCT
* 524 *              ZONE-NAMES = (ADMIN)  ..
* 525 *
* 526 * MAU-3       =SYSTEM  SYSTEM-TYPE = HVSYS
* 527 *              MAX-SUPPLY-T = 70.0  MIN-HUMIDITY = 30.0
* 528 *              ECONO-LIMIT-T = 65.0  ECONO-LOW-LIMIT = 55.0
* 529 *              HEAT-CONTROL = COLDEST  SUPPLY-CFM = 16920.
* 530 *              RATED-CFM = 16920.  MIN-OUTSIDE-AIR = 1.0
* 531 *              FAN-SCHEDULE = MAU_FAN_ON  SUPPLY-DELTA-T = 2.4
* 532 *              SUPPLY-KW = 0.00078
* 533 *              MOTOR-PLACEMENT = OUTSIDE-AIRFLOW
* 534 *              NIGHT-CYCLE-CTRL = CYCLE-ON-ANY  NIGHT-VENT-DT = 0.0
* 535 *              HEATING-CAPACITY = -1408000.  FURNACE-AUX = 0.
* 536 *              RETURN-AIR-PATH = DUCT
* 537 *              ZONE-NAMES = (BAY_WEST)  ..
* 538 *
* 539 * MAU-4       =SYSTEM  SYSTEM-TYPE = HVSYS
* 540 *              MAX-SUPPLY-T = 70.0  MIN-HUMIDITY = 30.0
* 541 *              ECONO-LIMIT-T = 65.0  ECONO-LOW-LIMIT = 55.0
* 542 *              HEAT-CONTROL = COLDEST  SUPPLY-CFM = 20000.
* 543 *              RATED-CFM = 20000.  MIN-OUTSIDE-AIR = 1.0
* 544 *              FAN-SCHEDULE = MAU_FAN_ON  SUPPLY-DELTA-T = 2.4
* 545 *              SUPPLY-KW = 0.00078
* 546 *              MOTOR-PLACEMENT = OUTSIDE-AIRFLOW
* 547 *              NIGHT-CYCLE-CTRL = CYCLE-ON-ANY  NIGHT-VENT-DT = 0.0
* 548 *              HEATING-CAPACITY = -1664300.  FURNACE-AUX = 0.
* 549 *              RETURN-AIR-PATH = DUCT
* 550 *              ZONE-NAMES = (BAY_EAST)  ..
* 551 *
* 552 * IMAG_UH     =SYSTEM  SYSTEM-TYPE = UHT
* 553 *              MAX-SUPPLY-T = 135.0  HEATING-SCHEDULE = FULL_OFF
* 554 *              SUPPLY-DELTA-T = 0.18  SUPPLY-KW = 0.000059
* 555 *              NIGHT-CYCLE-CTRL = CYCLE-ON-ANY  FURNACE-AUX = 0.
* 556 *              ZONE-NAMES = (MER_A, MER_B)  ..
* 557 *
* 558 * END  ..
* 559 * COMPUTE SYSTEMS  ..
* 560 *
* 561 * INPUT PLANT  ..

```

PDL PROCESSOR INPUT DATA

3/18/1995 9:49:38 PDL RUN 1

```

* 562 *
* 563 *
* 564 *
* 565 *
* 566 *
* 567 *
* 568 *
* 569 *
* 570 * TITLE LINE-1 * EMC ENGINEERS INC. *
* 571 * LINE-2 *EZDOE - ELITE SOFTWARE DEVELOPMENT INC*
* 572 * LINE-3 * DENVER, CO 80227 *
* 573 *
* 574 * LINE-4 *BUILDING 10670, VEHICLE MAINT. SHOP *
* 575 * LINE-5 *MODEL WITH SETBACK AND DDC * ..
* 576 *
* 577 * ABORT ERRORS ..
* 578 * DIAGNOSTIC WARNINGS ..
* 579 * PLANT-REPORT SUMMARY=(PS-A,PS-B,PS-C,PS-H,BEPS)
* 580 *
* 581 * HOURLY-DATA-SAVE = YES ..
* 582 *
* 583 *
* 584 *
* 585 *
* 586 *
* 587 *
* 588 *
* 589 *
* 590 *
* 591 * HTP_2 =PLANT-EQUIPMENT TYPE = HTANK-STORAGE
* 592 * SIZE = 4.6 ..
* 593 *
* 594 * HPHW =PLANT-EQUIPMENT TYPE = HTANK-STORAGE
* 595 * SIZE = 0.5 ..
* 596 *
* 597 * PLANT-PARAMETERS CCIRC-HEAD = 33.0 ..
* 598 *
* 599 *
* 600 * ENERGY-RESOURCE RESOURCE = ELECTRICITY ..
* 601 * ENERGY-RESOURCE RESOURCE = STEAM SOURCE-SITE-EFF = 1.000 ..
* 602 *
* 603 * ENERGY-STORAGE HEAT-STORE-RATE = 4.62 HEAT-SUPPLY-RATE = 4.62
* 604 * HTANK-BASE-T = 195.0 HTANK-T-RANGE = 5.0 ..
* 605 *
* 606 * HEAT-RECOVERY
* 607 * SUPPLY-1 = (HTANK-STORAGE,HTANK-STORAGE)
* 608 * DEMAND-1 = (SPACE-HEAT,PROCESS-HEAT) ..
* 609 *
* 610 * HTP-2_ASGN =LOAD-ASSIGNMENT TYPE = HEATING
* 611 * OPERATION-MODE = RUN-NEEDED
* 612 *
* 613 * LOAD-RANGE = 4.250
* 614 * PLANT-EQUIPMENT = HTP_2
* 615 * NUMBER = 1 ..
* 616 *
* 617 *
* 618 *
* 619 * END ..
* 620 * COMPUTE PLANT ..
* 621 * STOP ..

```

ENERGY TYPE IN SITE MBTU-	STEAM	ELECTRICITY
CATEGORY OF USE		
SPACE HEAT	5,401.70	0.00
SPACE COOL	0.00	0.00
HVAC AUX	0.00	497.15
DOM HOT WTR	209.98	0.00
AUX SOLAR	0.00	0.00
LIGHTS	0.00	319.36
VERT TRANS	0.00	0.00
MISC EQUIP	0.00	508.85
	-----	-----
TOTAL	5,611.68	1,325.36

TOTAL SITE ENERGY 6937.05 MBTU 159.4 KBTU/SQFT-YR GROSS-AREA 159.4 KBTU/SQFT-YR NET-AREA  
 TOTAL SOURCE ENERGY 9591.77 MBTU 220.4 KBTU/SQFT-YR GROSS-AREA 220.4 KBTU/SQFT-YR NET-AREA

PERCENT OF HOURS ANY SYSTEM ZONE OUTSIDE OF THROTTLING RANGE = 9.1  
 PERCENT OF HOURS ANY PLANT LOAD NOT SATISFIED = 0.0

NOTE ELECTRICITY AND/OR FUEL USED TO GENERATE ELECTRICITY IS APPORTIONED BASED  
 ON THE YEARLY DEMAND. ALL OTHER ENERGY TYPES ARE APPORTIONED HOURLY.

EMC ENGINEERS INC. EZDOE - ELITE SOFTWARE DEVELOPMENT INC DOE-2.1D 3/18/1995 9:49:38 PDL RUN 1  
 DENVER, CO 80227 BUILDING 10670, VEHICLE MAINT. SHOP MODEL WITH SETBACK AND DDC  
 REPORT- PS-B MONTHLY PEAK AND TOTAL ENERGY USE WEATHER FILE- MASSENA, NY

MO	UTILITY-	STEAM	ELECTRICITY
	TOTAL (MBTU)	1334.214	111.242
JAN	PEAK (KBTU)	7143.644	334.294
	DY/HR	5/12	31/14
	TOTAL (MBTU)	929.277	101.118
FEB	PEAK (KBTU)	5657.392	334.294
	DY/HR	4/12	28/14
	TOTAL (MBTU)	933.655	112.453
MAR	PEAK (KBTU)	5685.908	334.294
	DY/HR	9/ 7	31/14
	TOTAL (MBTU)	415.229	99.323
APR	PEAK (KBTU)	3786.499	334.294
	DY/HR	1/ 7	29/14
	TOTAL (MBTU)	135.840	110.379
MAY	PEAK (KBTU)	2604.468	448.869
	DY/HR	3/ 7	20/14
	TOTAL (MBTU)	23.454	120.963
JUN	PEAK (KBTU)	567.400	448.869
	DY/HR	29/12	20/14
	TOTAL (MBTU)	17.891	124.940
JUL	PEAK (KBTU)	567.400	424.643
	DY/HR	29/12	29/14
	TOTAL (MBTU)	21.416	117.941
AUG	PEAK (KBTU)	567.400	448.869
	DY/HR	31/12	30/14
	TOTAL (MBTU)	28.954	115.033
SEP	PEAK (KBTU)	631.359	448.869
	DY/HR	23/12	16/14
	TOTAL (MBTU)	287.540	99.228
OCT	PEAK (KBTU)	3100.963	334.294
	DY/HR	28/ 8	31/14
	TOTAL (MBTU)	547.687	103.178
NOV	PEAK (KBTU)	4204.534	334.294
	DY/HR	29/ 7	30/14
	TOTAL (MBTU)	936.518	109.573
DEC	PEAK (KBTU)	5538.219	334.294
	DY/HR	28/ 7	30/14
	ONE YEAR	5611.676	1325.372
	USE/PEAK	7143.644	448.869

**COMPUTER SIMULATIONS**  
**BUILDING 10670**

**RUN 4 - FORCED VENTILATION**



SDL PROCESSOR INPUT DATA

3/18/1995 9:54:37 SDL RUN 1

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* 371 *
* 372 *
* 373 *          $-----$
* 374 *          $ E Z - D O E   S Y S T E M S   I N P U T $
* 375 *          $-----$
* 376 *
* 377 *          $ GENERAL PROJECT DATA
* 378 *
* 379 * TITLE  LINE-1 *      EMC      ENGINEERS      INC.      *
* 380 *      LINE-2 *EZDOE - ELITE SOFTWARE DEVELOPMENT INC*
* 381 *      LINE-3 *      DENVER,      CO      80227      *
* 382 *
* 383 *      LINE-4 *BUILDING 10670, VEHICLE MAINT. SHOP      *
* 384 *      LINE-5 *SETBACK, DDC, AND FORCED VENTILATION  * ..
* 385 * ABORT      ERRORS ..
* 386 * DIAGNOSTIC  WARNINGS ..
* 387 * SYSTEMS-REPORT VERIFICATION=(SV-A,SV-B)
* 388 *      SUMMARY=(SS-A,SS-C,SS-F,SS-I,SS-K,SS-L,SS-M,
* 389 *      SS-O)
* 390 *      HOURLY-DATA-SAVE = YES ..
* 391 *
* 392 *          $ SCHEDULES
* 393 *
* 394 * FULL_ON_D  =DAY-SCHEDULE (1,24) (1.) ..
* 395 * FULL_OFF_D =DAY-SCHEDULE (1,24) (0.) ..
* 396 * HEAT60_D  =DAY-SCHEDULE (1,5) (47.)
* 397 *      (6,16) (60.)
* 398 *      (17,24) (47.) ..
* 399 * HEAT68_D  =DAY-SCHEDULE (1,24) (68.) ..
* 400 * COOL75_D  =DAY-SCHEDULE (1,24) (75.) ..
* 401 * COOL80_D  =DAY-SCHEDULE (1,24) (80.) ..
* 402 * MAUFANON_D =DAY-SCHEDULE (1,5) (0.)
* 403 *      (6,16) (1.)
* 404 *      (17,24) (0.) ..
* 405 * FAN_WSB_D =DAY-SCHEDULE (1,4) (0.)
* 406 *      (5,16) (1.)
* 407 *      (17,24) (0.) ..
* 408 * HT68_WSB_D =DAY-SCHEDULE (1,4) (50.)
* 409 *      (5,16) (68.)
* 410 *      (17,24) (50.) ..
* 411 * HEAT_50_D =DAY-SCHEDULE (1,24) (50.) ..
* 412 * MOA_.13_D =DAY-SCHEDULE (1,5) (0.)
* 413 *      (6,16) (0.13)
* 414 *      (17,24) (0.) ..
* 415 *
* 416 * FULL_ON_W  =WEEK-SCHEDULE (ALL) FULL_ON_D ..
* 417 *
* 418 * FULL_OFF_W =WEEK-SCHEDULE (ALL) FULL_OFF_D ..
* 419 *
* 420 * HEAT60_W  =WEEK-SCHEDULE (ALL) HEAT60_D ..
* 421 *
* 422 * HEAT68_W  =WEEK-SCHEDULE (ALL) HEAT68_D ..
* 423 *
* 424 * COO75_W   =WEEK-SCHEDULE (ALL) COOL75_D ..
* 425 *
* 426 * COOL80_W  =WEEK-SCHEDULE (ALL) COOL80_D ..
* 427 *
* 428 * MAUFANON_W =WEEK-SCHEDULE (WD) MAUFANON_D
* 429 *      (SAT) FULL_OFF_D
* 430 *      (SUN) FULL_OFF_D
* 431 *      (HOL) MAUFANON_D ..
* 432 *
* 433 * FAN_WSB_W  =WEEK-SCHEDULE (WD) FAN_WSB_D
* 434 *      (SAT) FULL_OFF_D
* 435 *      (SUN) FULL_OFF_D
* 436 *      (HOL) FAN_WSB_D ..
* 437 *
* 438 * HT68_WSB_W =WEEK-SCHEDULE (WD) HT68_WSB_D
* 439 *      (SAT) HEAT_50_D
* 440 *      (SUN) HEAT_50_D
* 441 *      (HOL) HT68_WSB_D ..
* 442 *
* 443 * MOA_.13_W  =WEEK-SCHEDULE (ALL) MOA_.13_D ..
* 444 *
* 445 *
* 446 * $ FULL ON SCHEDULE
* 447 * FULL_ON    =SCHEDULE THRU DEC 31 FULL_ON_W ..
* 448 *
* 449 * $ FULL OFF SCHEDULE
* 450 * FULL_OFF   =SCHEDULE THRU DEC 31 FULL_OFF_W ..
* 451 *
* 452 * $ HEAT SCHEDULE 60 DEG
* 453 * HEAT60_ON  =SCHEDULE THRU MAY 15 HEAT60_W
* 454 *      THRU OCT 1 FULL_OFF_W
* 455 *      THRU DEC 31 HEAT60_W ..
* 456 *
* 457 * $ HEAT SCHEDULE 68 DEG
* 458 * HEAT68_ON  =SCHEDULE THRU MAY 15 HEAT68_W
* 459 *      THRU OCT 1 FULL_OFF_W
* 460 *      THRU DEC 31 HEAT68_W ..
* 461 *
* 462 * $ VENTILATION SCHD 75 DEG
* 463 * COOL75_SCD =SCHEDULE THRU DEC 31 COO75_W ..
* 464 *
* 465 * $ VENTILATION SCHD 80 DEG
* 466 * COOL80_SCH =SCHEDULE THRU DEC 31 COOL80_W ..
* 467 *
* 468 * MAU_FAN_ON =SCHEDULE THRU DEC 31 MAUFANON_W ..
* 469 *
* 470 * $ SUPPLY FAN FOR ADMIN

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* 471 * FAN_W_SB =SCHEDULE THRU DEC 31 FAN_WSB_W ..
* 472 *
* 473 * HT68_WSB =SCHEDULE THRU DEC 31 HT68_WSB_W ..
* 474 *
* 475 * MOA_.13_FV =SCHEDULE THRU DEC 31 MOA_.13_W ..
* 476 *
* 477 *
* 478 *
* 479 *
* 480 *
* 481 * BAY_WEST =ZONE DESIGN-HEAT-T = 60.0 DESIGN-COOL-T = 80.0
* 482 * HEAT-TEMP-SCH = HEAT60_ON ZONE-TYPE = CONDITIONED
* 483 * THERMOSTAT-TYPE = PROPORTIONAL
* 484 * BASEBOARD-CTRL = THERMOSTATIC
* 485 * BASEBOARD-RATING = -509000. ASSIGNED-CFM = 16920.
* 486 * OUTSIDE-AIR-CFM = 16920. SIZING-OPTION = FROM-LOADS ..
* 487 *
* 488 * BAY_EAST =ZONE DESIGN-HEAT-T = 60.0 DESIGN-COOL-T = 80.0
* 489 * HEAT-TEMP-SCH = HEAT60_ON ZONE-TYPE = CONDITIONED
* 490 * THERMOSTAT-TYPE = PROPORTIONAL
* 491 * BASEBOARD-CTRL = THERMOSTATIC
* 492 * BASEBOARD-RATING = -1109000. ASSIGNED-CFM = 20000.
* 493 * OUTSIDE-AIR-CFM = 20000. SIZING-OPTION = FROM-LOADS
* 494 * MIN-CFM-RATIO = 1.0 ..
* 495 *
* 496 * ADMIN =ZONE DESIGN-HEAT-T = 68.0 DESIGN-COOL-T = 75.0
* 497 * HEAT-TEMP-SCH = HT68_WSB ZONE-TYPE = CONDITIONED
* 498 * THERMOSTAT-TYPE = PROPORTIONAL THROTTLING-RANGE = 1.0
* 499 * BASEBOARD-CTRL = THERMOSTATIC
* 500 * BASEBOARD-RATING = -17400. ASSIGNED-CFM = 11410.
* 501 * OUTSIDE-AIR-CFM = 1521. SIZING-OPTION = FROM-LOADS
* 502 * EXHAUST-CFM = 1521.0 EXHAUST-STATIC = 1.0
* 503 * HEATING-CAPACITY = -366100.0 ..
* 504 *
* 505 * MER_A =ZONE DESIGN-HEAT-T = 70.0 DESIGN-COOL-T = 75.0
* 506 * ZONE-TYPE = CONDITIONED
* 507 * THERMOSTAT-TYPE = PROPORTIONAL THROTTLING-RANGE = 5.0
* 508 * ASSIGNED-CFM = 10. OUTSIDE-AIR-CFM = 10.
* 509 * SIZING-OPTION = FROM-LOADS ..
* 510 *
* 511 * MER_B =ZONE DESIGN-HEAT-T = 70.0 DESIGN-COOL-T = 75.0
* 512 * ZONE-TYPE = CONDITIONED
* 513 * THERMOSTAT-TYPE = PROPORTIONAL THROTTLING-RANGE = 5.0
* 514 * ASSIGNED-CFM = 10. OUTSIDE-AIR-CFM = 10.
* 515 * SIZING-OPTION = FROM-LOADS ..
* 516 *
* 517 *
* 518 *
* 519 *
* 520 * HV-2 =SYSTEM SYSTEM-TYPE = HVSYS
* 521 * MAX-SUPPLY-T = 120.0 MIN-HUMIDITY = 30.0
* 522 * ECONO-LIMIT-T = 65.0 ECONO-LOW-LIMIT = 55.0
* 523 * HEAT-CONTROL = COLDEST SUPPLY-CFM = 11410.
* 524 * RETURN-CFM = 9889. RATED-CFM = 11410.
* 525 * MIN-OUTSIDE-AIR = 0.13 MIN-AIR-SCH = MOA_.13_FV
* 526 * FAN-SCHEDULE = FAN_W_SB SUPPLY-DELTA-T = 2.4
* 527 * SUPPLY-KW = 0.00078
* 528 * MOTOR-PLACEMENT = OUTSIDE-AIRFLOW
* 529 * NIGHT-CYCLE-CTRL = CYCLE-ON-ANY NIGHT-VENT-DT = 0.0
* 530 * HEATING-CAPACITY = -366100. FURNACE-AUX = 0.
* 531 * RETURN-AIR-PATH = DUCT
* 532 * ZONE-NAMES = (ADMIN) ..
* 533 *
* 534 * MAU-3 =SYSTEM SYSTEM-TYPE = HVSYS
* 535 * MAX-SUPPLY-T = 70.0 MIN-HUMIDITY = 30.0
* 536 * ECONO-LIMIT-T = 65.0 ECONO-LOW-LIMIT = 55.0
* 537 * HEAT-CONTROL = COLDEST SUPPLY-CFM = 16920.
* 538 * RATED-CFM = 16920. MIN-OUTSIDE-AIR = 1.0
* 539 * FAN-SCHEDULE = MAU_FAN_ON SUPPLY-DELTA-T = 2.4
* 540 * SUPPLY-KW = 0.00078
* 541 * MOTOR-PLACEMENT = OUTSIDE-AIRFLOW
* 542 * NIGHT-CYCLE-CTRL = CYCLE-ON-ANY NIGHT-VENT-DT = 0.0
* 543 * HEATING-CAPACITY = -1408000. FURNACE-AUX = 0.
* 544 * RETURN-AIR-PATH = DUCT
* 545 * ZONE-NAMES = (BAY_WEST) ..
* 546 *
* 547 * MAU-4 =SYSTEM SYSTEM-TYPE = HVSYS
* 548 * MAX-SUPPLY-T = 70.0 MIN-HUMIDITY = 30.0
* 549 * ECONO-LIMIT-T = 65.0 ECONO-LOW-LIMIT = 55.0
* 550 * HEAT-CONTROL = COLDEST SUPPLY-CFM = 20000.
* 551 * RATED-CFM = 20000. MIN-OUTSIDE-AIR = 1.0
* 552 * FAN-SCHEDULE = MAU_FAN_ON SUPPLY-DELTA-T = 2.4
* 553 * SUPPLY-KW = 0.00078
* 554 * MOTOR-PLACEMENT = OUTSIDE-AIRFLOW
* 555 * NIGHT-CYCLE-CTRL = CYCLE-ON-ANY NIGHT-VENT-DT = 0.0
* 556 * HEATING-CAPACITY = -1664300. FURNACE-AUX = 0.
* 557 * RETURN-AIR-PATH = DUCT
* 558 * ZONE-NAMES = (BAY_EAST) ..
* 559 *
* 560 * IMAG_UH =SYSTEM SYSTEM-TYPE = UHT
* 561 * MAX-SUPPLY-T = 135.0 HEATING-SCHEDULE = FULL_OFF
* 562 * SUPPLY-DELTA-T = 0.18 SUPPLY-KW = 0.000059
* 563 * NIGHT-CYCLE-CTRL = CYCLE-ON-ANY FURNACE-AUX = 0.
* 564 * ZONE-NAMES = (MER_A, MER_B) ..
* 565 *
* 566 * END ..
* 567 * COMPUTE SYSTEMS ..
* 568 *
* 569 * INPUT PLANT ..

```

PDL PROCESSOR INPUT DATA

3/18/1995 9:54:37 PDL RUN 1

```

* 570 *
* 571 *
* 572 *          $-----$
* 573 *          $EZ - DOE PLANTS INPUT$
* 574 *          $-----$
* 575 *
* 576 *          $ GENERAL PROJECT DATA
* 577 *
* 578 * TITLE LINE-1 *      EMC      ENGINEERS      INC.      *
* 579 * LINE-2 *EZDOE - ELITE SOFTWARE DEVELOPMENT INC*
* 580 * LINE-3 *      DENVER,      CO      80227      *
* 581 *
* 582 * LINE-4 *BUILDING 10670, VEHICLE MAINT. SHOP      *
* 583 * LINE-5 *SETBACK, DDC, AND FORCED VENTILATION      * ..
* 584 *
* 585 * ABORT      ERRORS      ..
* 586 * DIAGNOSTIC      WARNINGS ..
* 587 * PLANT-REPORT      SUMMARY=(PS-A,PS-B,PS-C,PS-H,BEPS)
* 588 *
* 589 *      HOURLY-DATA-SAVE = YES      ..
* 590 *
* 591 *          $ SCHEDULES
* 592 *
* 593 *
* 594 *
* 595 *
* 596 *
* 597 *          $ EQUIPMENT DESCRIPTION
* 598 *
* 599 * HTP_2      =PLANT-EQUIPMENT      TYPE = HTANK-STORAGE
* 600 *      SIZE = 4.6      ..
* 601 *
* 602 * HPHW      =PLANT-EQUIPMENT      TYPE = HTANK-STORAGE
* 603 *      SIZE = 0.5      ..
* 604 *
* 605 * PLANT-PARAMETERS      CCIRC-HEAD = 33.0      ..
* 606 *
* 607 *
* 608 * ENERGY-RESOURCE      RESOURCE = ELECTRICITY      ..
* 609 * ENERGY-RESOURCE      RESOURCE = STEAM      SOURCE-SITE-EFF = 1.000      ..
* 610 *
* 611 * ENERGY-STORAGE      HEAT-STORE-RATE = 4.62      HEAT-SUPPLY-RATE = 4.62
* 612 *      HTANK-BASE-T = 195.0      HTANK-T-RANGE = 5.0      ..
* 613 *
* 614 *      HEAT-RECOVERY
* 615 *      SUPPLY-1 = (HTANK-STORAGE,HTANK-STORAGE)
* 616 *      DEMAND-1 = (SPACE-HEAT,PROCESS-HEAT)      ..
* 617 *
* 618 * HTP-2_ASGN =LOAD-ASSIGNMENT      TYPE = HEATING
* 619 *      OPERATION-MODE = RUN-NEEDED
* 620 *
* 621 *      LOAD-RANGE =      4.250
* 622 *      PLANT-EQUIPMENT = HTP_2
* 623 *      NUMBER =      1      ..
* 624 *
* 625 *
* 626 *
* 627 * END      ..
* 628 * COMPUTE PLANT ..
* 629 * STOP      ..

```

MO	UTILITY-	STEAM	ELECTRICITY
	TOTAL (MBTU)	1334.214	111.242
JAN	PEAK (KBTU)	7143.644	334.294
	DY/HR	5/12	31/14
	TOTAL (MBTU)	929.277	101.118
FEB	PEAK (KBTU)	5657.392	334.294
	DY/HR	4/12	28/14
	TOTAL (MBTU)	933.655	112.453
MAR	PEAK (KBTU)	5685.908	334.294
	DY/HR	9/ 7	31/14
	TOTAL (MBTU)	415.229	99.323
APR	PEAK (KBTU)	3786.499	334.294
	DY/HR	1/ 7	29/14
	TOTAL (MBTU)	135.846	110.379
MAY	PEAK (KBTU)	2604.468	448.869
	DY/HR	3/ 7	20/14
	TOTAL (MBTU)	23.083	120.769
JUN	PEAK (KBTU)	567.400	448.869
	DY/HR	29/12	20/14
	TOTAL (MBTU)	18.056	125.037
JUL	PEAK (KBTU)	567.400	424.643
	DY/HR	29/12	29/14
	TOTAL (MBTU)	21.404	117.941
AUG	PEAK (KBTU)	567.400	448.869
	DY/HR	31/12	30/14
	TOTAL (MBTU)	28.824	114.985
SEP	PEAK (KBTU)	631.145	448.869
	DY/HR	23/12	16/14
	TOTAL (MBTU)	287.546	99.228
OCT	PEAK (KBTU)	3100.963	334.294
	DY/HR	28/ 8	31/14
	TOTAL (MBTU)	547.687	103.178
NOV	PEAK (KBTU)	4204.534	334.294
	DY/HR	29/ 7	30/14
	TOTAL (MBTU)	936.518	109.573
DEC	PEAK (KBTU)	5538.219	334.294
	DY/HR	28/ 7	30/14
	ONE YEAR	5611.341	1325.227
	USE/PEAK	7143.644	448.869

LDL PROCESSOR INPUT DATA

3/18/1995 9:54:37 LDL RUN 1

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* 3 *
* 4 *
* 5 *
* 6 *
* 7 *
* 8 *
* 9 *
* 10 *
* 11 * TITLE LINE-1 * EMC ENGINEERS INC. *
* 12 * LINE-2 *EZDOE - ELITE SOFTWARE DEVELOPMENT INC*
* 13 * LINE-3 * DENVER, CO 80227 *
* 14 *
* 15 * LINE-4 *BUILDING 10670, VEHICLE MAINT. SHOP *
* 16 * LINE-5 *SETBACK, DDC, AND FORCED VENTILATION * ..
* 17 *
* 18 * ABORT ERRORS ..
* 19 * DIAGNOSTIC WARNINGS ..
* 20 * LOADS-REPORT SUMMARY=(LS-C,LS-D)
* 21 * HOURLY-DATA-SAVE = YES ..
* 22 * BUILDING-LOCATION HOLIDAY = NO
* 23 * X-REF = 0.0
* 24 * Y-REF = 0.0 ..
* 25 * RUN-PERIOD JAN 1 1994 THRU DEC 31 1994 ..
* 26 *
* 27 *
* 28 * $ SCHEDULES
* 29 *
* 30 * FULL_ON_D =DAY-SCHEDULE (1,24) (1.) ..
* 31 *
* 32 * FULL_OFF_D =DAY-SCHEDULE (1,24) (0.) ..
* 33 *
* 34 * LIGHT_ON_D =DAY-SCHEDULE (1,5) (0.23)
* 35 * (6,7) (0.35)
* 36 * (8,9) (0.5,0.6)
* 37 * (10,11) (0.75)
* 38 * (12) (0.5)
* 39 * (13,14) (0.75)
* 40 * (15) (0.5)
* 41 * (16,18) (0.4)
* 42 * (19) (0.3)
* 43 * (20,24) (0.23) ..
* 44 *
* 45 * LT_ON_WKND =DAY-SCHEDULE (1,6) (0.23)
* 46 * (7,19) (0.07)
* 47 * (20,24) (0.23) ..
* 48 *
* 49 * PEOPLE_D =DAY-SCHEDULE (1,5) (0.)
* 50 * (6,7) (0.1,0.5)
* 51 * (8,11) (1.)
* 52 * (12) (0.8)
* 53 * (13,16) (1.)
* 54 * (17,18) (0.5,0.1)
* 55 * (19,24) (0.) ..
* 56 *
* 57 * EQUIP_ON_D =DAY-SCHEDULE (1,5) (0.05)
* 58 * (6,7) (0.1,0.2)
* 59 * (8,9) (0.3)
* 60 * (10,11) (0.4,0.7)
* 61 * (12,13) (0.4)
* 62 * (14,15) (0.8)
* 63 * (16,18) (0.7,0.3,0.1)
* 64 * (19,24) (0.05) ..
* 65 *
* 66 * SHOP_INF_D =DAY-SCHEDULE (1,24) (1.) ..
* 67 *
* 68 * HALF_ON =DAY-SCHEDULE (1,24) (0.5) ..
* 69 *
* 70 * VENT_QURTD =DAY-SCHEDULE (1,11) (0.)
* 71 * (12,17) (1.)
* 72 * (18,24) (0.) ..
* 73 *
* 74 * VENT_HALFD =DAY-SCHEDULE (1,9) (0.)
* 75 * (10,21) (1.)
* 76 * (22,24) (0.) ..
* 77 *
* 78 * HPHW_D =DAY-SCHEDULE (1,11) (0.)
* 79 * (12) (1.)
* 80 * (13,24) (0.) ..
* 81 *
* 82 * VEH_EXH_D =DAY-SCHEDULE (1,5) (0.)
* 83 * (6,16) (1.)
* 84 * (17) (0.5)
* 85 * (18,24) (0.) ..
* 86 *
* 87 * DHW_D =DAY-SCHEDULE (1,5) (0.)
* 88 * (6,8) (0.55)
* 89 * (9,10) (0.5)
* 90 * (11,15) (0.55,0.9,0.6,0.8,0.7)
* 91 * (16) (0.75)
* 92 * (17,18) (0.3)
* 93 * (19,20) (0.4,0.05)
* 94 * (21,24) (0.) ..
* 95 *
* 96 * COMPRESS_D =DAY-SCHEDULE (1,24) (0.33) ..
* 97 *
* 98 *
* 99 * FULL_ON_W =WEEK-SCHEDULE (ALL) FULL_ON_D ..
* 100 *
* 101 * FULL_OFF_W =WEEK-SCHEDULE (ALL) FULL_OFF_D ..
* 102 *

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* 103 * LIGHT_ON_W =WEEK-SCHEDULE (WD) LIGHT_ON_D
* 104 * (WEH) LT_ON_WKND ..
* 105 *
* 106 * PEOPLE_W =WEEK-SCHEDULE (WD) PEOPLE_D
* 107 * (WEH) FULL_OFF_D ..
* 108 *
* 109 * EQUIP_W =WEEK-SCHEDULE (WD) EQUIP_ON_D
* 110 * (WEH) FULL_OFF_D ..
* 111 *
* 112 * SHOP_IFL_W =WEEK-SCHEDULE (WD) SHOP_INF_D
* 113 * (WEH) FULL_OFF_D ..
* 114 *
* 115 * UH_HALF_W =WEEK-SCHEDULE (ALL) HALF_ON ..
* 116 *
* 117 * VENT_QRT_W =WEEK-SCHEDULE (ALL) VENT_QURTD ..
* 118 *
* 119 * VENT_HLF_W =WEEK-SCHEDULE (ALL) VENT_HALFD ..
* 120 *
* 121 * HPHW_W =WEEK-SCHEDULE (MON) FULL_OFF_D
* 122 * (TUE) FULL_OFF_D
* 123 * (WED) HPHW_D
* 124 * (THU) FULL_OFF_D
* 125 * (FRI) HPHW_D
* 126 * (SAT) FULL_OFF_D
* 127 * (SUN) FULL_OFF_D
* 128 * (HOL) FULL_OFF_D ..
* 129 *
* 130 * VEH_EX_W =WEEK-SCHEDULE (WD) VEH_EXH_D
* 131 * (WEH) FULL_OFF_D ..
* 132 *
* 133 * DHW_W =WEEK-SCHEDULE (WD) DHW_D
* 134 * (WEH) FULL_OFF_D ..
* 135 *
* 136 * COMPRESS_W =WEEK-SCHEDULE (ALL) COMPRESS_D ..
* 137 *
* 138 *
* 139 * $ FULL OFF SCHEDULE
* 140 * FULL_OFF =SCHEDULE THRU DEC 31 FULL_OFF_W ..
* 141 *
* 142 * $ LIGHTING SCHEDULE
* 143 * LIGHT_SCHD =SCHEDULE THRU DEC 31 LIGHT_ON_W ..
* 144 *
* 145 * $ OCCUPANCY SCHEDULE
* 146 * PEOPLE_SCH =SCHEDULE THRU DEC 31 PEOPLE_W ..
* 147 *
* 148 * $ EQUIPMENT SCHEDULE
* 149 * EQUIP_SCHD =SCHEDULE THRU DEC 31 EQUIP_W ..
* 150 *
* 151 * $ SHOP INFILTRATION SCHED
* 152 * SHOP_INFIL =SCHEDULE THRU DEC 31 SHOP_IFL_W ..
* 153 *
* 154 * $ UNIT HEATER POWER CONS.
* 155 * UNIT_HEAT =SCHEDULE THRU MAR 15 FULL_ON_W
* 156 * THRU MAY 15 UH_HALF_W
* 157 * THRU OCT 1 FULL_OFF_W
* 158 * THRU NOV 15 UH_HALF_W
* 159 * THRU DEC 31 FULL_ON_W ..
* 160 *
* 161 * $ SUMMER EX FAN SCHEDULE
* 162 * VENT_ON =SCHEDULE THRU MAY 15 FULL_OFF_W
* 163 * THRU JUN 20 VENT_QRT_W
* 164 * THRU JUL 20 VENT_HLF_W
* 165 * THRU OCT 1 VENT_QRT_W
* 166 * THRU DEC 31 FULL_OFF_W ..
* 167 *
* 168 * $ FULL ON SCHEDULE
* 169 * FULL_ON =SCHEDULE THRU DEC 31 FULL_ON_W ..
* 170 *
* 171 * $ HIGH PRESS HW WASHER SD
* 172 * HPHW_SCHD =SCHEDULE THRU DEC 31 HPHW_W ..
* 173 *
* 174 * $ VEHICLE EXHAUST FAN SCH
* 175 * VEH_EXH =SCHEDULE THRU DEC 31 VEH_EX_W ..
* 176 *
* 177 * $ DHW SCHEDULE
* 178 * DHW_SCHD =SCHEDULE THRU DEC 31 DHW_W ..
* 179 *
* 180 * $ COMPRESSOR SCHEDULE
* 181 * COMPR_SCHD =SCHEDULE THRU DEC 31 COMPRESS_W ..
* 182 *
* 183 *
* 184 *
* 185 * $ CONSTRUCTION TYPES
* 186 *
* 187 *
* 188 *
* 189 * FLOORCON =CONSTRUCTION U-VALUE = 0.100 ..
* 190 *
* 191 * $ ADMINISTRATION ROOF CONSTRUCTION
* 192 * ADMROOF =CONSTRUCTION U-VALUE = 0.050 ..
* 193 *
* 194 * $ ROOF CONSTRUCTION
* 195 * ROOFCON =CONSTRUCTION U-VALUE = 0.050 ..
* 196 * WALLCON =CONSTRUCTION U-VALUE = 0.200 ..
* 197 * INWALL =CONSTRUCTION U-VALUE = 0.500 ..
* 198 * DOORCON =CONSTRUCTION U-VALUE = 0.400 ..
* 199 *
* 200 * G_TYPE1 =GLASS-TYPE SHADING-COEF = 1.000
* 201 * PANES = 1
* 202 * GLASS-CONDUCTANCE = 1.130 ..
* 203 *
* 204 *
* 205 *
* 206 *
* 207 * $ SPACE DESCRIPTION
* 208 *
* 209 * BAY_WEST =SPACE AREA = 11424.0 VOLUME = 342720.0
* 210 * TEMPERATURE = (55.) ZONE-TYPE = CONDITIONED

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* 211 *      PEOPLE-SCHEDULE = PEOPLE_SCH  NUMBER-OF-PEOPLE = 40.0
* 212 *      PEOPLE-HEAT-GAIN = 700.0  LIGHTING-TYPE = INCAND
* 213 *      LIGHTING-KW = 9.17  LIGHTING-SCHEDULE = LIGHT_SCHD
* 214 *      EQUIP-SCHEDULE = VENT_ON  EQUIPMENT-KW = 14.92
* 215 *      EQUIP-SENSIBLE = 0.01  INF-METHOD = AIR-CHANGE
* 216 *      AIR-CHANGES/HR = 1.0  INF-SCHEDULE = SHOP_INFIL  ..
* 217 *
* 218 *      U-W      HEIGHT = 64.0  WIDTH = 178.5  CONS = FLOORCON  ..
* 219 *
* 220 *      ROOF      HEIGHT = 64.0  WIDTH = 178.5  CONS = ROOFCON
* 221 *      TILT = 0  ..
* 222 *
* 223 *      E-W      HEIGHT = 30.0  WIDTH = 178.5  CONS = WALLCON
* 224 *      AZIMUTH = 0  ..
* 225 *
* 226 *      DOOR      HEIGHT = 14.0  WIDTH = 28.0  CONS = DOORCON
* 227 *      MULTIPLIER = 5.0  ..
* 228 *
* 229 *      DOOR      HEIGHT = 7.5  WIDTH = 3.0  CONS = DOORCON
* 230 *      MULTIPLIER = 2.0  ..
* 231 *
* 232 *      E-W      HEIGHT = 30.0  WIDTH = 178.5  CONS = WALLCON
* 233 *      AZIMUTH = 180  ..
* 234 *
* 235 *      DOOR      HEIGHT = 14.0  WIDTH = 28.0  CONS = DOORCON
* 236 *      MULTIPLIER = 5.0  ..
* 237 *
* 238 *      DOOR      HEIGHT = 7.5  WIDTH = 3.0  CONS = DOORCON
* 239 *      MULTIPLIER = 2.0  ..
* 240 *
* 241 *      E-W      HEIGHT = 30.0  WIDTH = 64.0  CONS = WALLCON
* 242 *      AZIMUTH = 270  ..
* 243 *
* 244 *      DOOR      HEIGHT = 7.5  WIDTH = 3.0  CONS = DOORCON
* 245 *      MULTIPLIER = 4.0  ..
* 246 *
* 247 *
* 248 *      BAY_EAST  =SPACE  AREA = 13504.0  VOLUME = 405120.0
* 249 *      TEMPERATURE = (55.)  ZONE-TYPE = CONDITIONED
* 250 *      PEOPLE-SCHEDULE = PEOPLE_SCH  NUMBER-OF-PEOPLE = 40.0
* 251 *      PEOPLE-HEAT-GAIN = 700.0  LIGHTING-TYPE = INCAND
* 252 *      LIGHTING-KW = 9.54  LIGHTING-SCHEDULE = LIGHT_SCHD
* 253 *      EQUIP-SCHEDULE = VENT_ON  EQUIPMENT-KW = 18.65
* 254 *      EQUIP-SENSIBLE = 0.01  SOURCE-SENSIBLE = 0.0
* 255 *      INF-METHOD = AIR-CHANGE  AIR-CHANGES/HR = 1.0
* 256 *      INF-SCHEDULE = SHOP_INFIL  ..
* 257 *
* 258 *      U-W      HEIGHT = 64.0  WIDTH = 178.5  CONS = FLOORCON  ..
* 259 *
* 260 *      ROOF      HEIGHT = 64.0  WIDTH = 178.5  CONS = ROOFCON
* 261 *      TILT = 0  ..
* 262 *
* 263 *      E-W      HEIGHT = 30.0  WIDTH = 178.5  CONS = WALLCON
* 264 *      AZIMUTH = 0  ..
* 265 *
* 266 *      DOOR      HEIGHT = 14.0  WIDTH = 28.0  CONS = DOORCON
* 267 *      MULTIPLIER = 6.0  ..
* 268 *
* 269 *      DOOR      HEIGHT = 7.5  WIDTH = 3.0  CONS = DOORCON
* 270 *      MULTIPLIER = 2.0  ..
* 271 *
* 272 *      E-W      HEIGHT = 30.0  WIDTH = 178.5  CONS = WALLCON
* 273 *      AZIMUTH = 180  ..
* 274 *
* 275 *      DOOR      HEIGHT = 14.0  WIDTH = 28.0  CONS = DOORCON
* 276 *      MULTIPLIER = 6.0  ..
* 277 *
* 278 *      DOOR      HEIGHT = 7.5  WIDTH = 3.0  CONS = DOORCON
* 279 *      MULTIPLIER = 2.0  ..
* 280 *
* 281 *      E-W      HEIGHT = 30.0  WIDTH = 64.0  CONS = WALLCON
* 282 *      AZIMUTH = 90  ..
* 283 *
* 284 *      DOOR      HEIGHT = 7.5  WIDTH = 3.0  CONS = DOORCON
* 285 *      MULTIPLIER = 2.0  ..
* 286 *
* 287 *
* 288 *      ADMIN    =SPACE  AREA = 18592.0  VOLUME = 148736.0
* 289 *      TEMPERATURE = (68.)  ZONE-TYPE = CONDITIONED
* 290 *      PEOPLE-SCHEDULE = PEOPLE_SCH  NUMBER-OF-PEOPLE = 40.0
* 291 *      PEOPLE-HEAT-GAIN = 550.0
* 292 *      LIGHTING-TYPE = REC-FLUOR-RV  LIGHTING-KW = 14.04
* 293 *      LIGHTING-SCHEDULE = LIGHT_SCHD
* 294 *      EQUIP-SCHEDULE = EQUIP_SCHD  EQUIPMENT-KW = 15.0
* 295 *      SOURCE-SCHEDULE = DHW_SCHD  SOURCE-TYPE = HOT-WATER
* 296 *      SOURCE-BTU/HR = 76000.0  SOURCE-SENSIBLE = 0.2
* 297 *      INF-METHOD = AIR-CHANGE  AIR-CHANGES/HR = 0.33
* 298 *      INF-SCHEDULE = FULL_ON  ..
* 299 *
* 300 *      U-W      HEIGHT = 64.0  WIDTH = 84.0  CONS = FLOORCON  ..
* 301 *
* 302 *      ROOF      HEIGHT = 64.0  WIDTH = 84.0  CONS = FLOORCON
* 303 *      TILT = 0  ..
* 304 *
* 305 *      E-W      HEIGHT = 16.0  WIDTH = 84.0  CONS = FLOORCON
* 306 *      AZIMUTH = 0  ..
* 307 *
* 308 *      WINDOW     HEIGHT = 4.0  WIDTH = 2.0  G-T = G_TYPE1
* 309 *      MULTIPLIER = 10.0  ..
* 310 *
* 311 *      DOOR      HEIGHT = 7.5  WIDTH = 3.0  CONS = DOORCON
* 312 *      MULTIPLIER = 6.0  ..
* 313 *
* 314 *      E-W      HEIGHT = 16.0  WIDTH = 20.0  CONS = FLOORCON
* 315 *      AZIMUTH = 180  ..
* 316 *
* 317 *      WINDOW     HEIGHT = 4.0  WIDTH = 2.0  G-T = G_TYPE1
* 318 *      MULTIPLIER = 2.0  ..

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* 319 *
* 320 *          DOOR  HEIGHT = 7.5  WIDTH = 3.0  CONS = DOORCON
* 321 *          MULTIPLIER = 2.0  ..
* 322 *
* 323 *          U-W   HEIGHT = 122.5  WIDTH = 64.0  CONS = FLOORCON ..
* 324 *
* 325 *          ROOF   HEIGHT = 122.5  WIDTH = 64.0  CONS = FLOORCON
* 326 *          TILT = 0  ..
* 327 *
* 328 *          E-W   HEIGHT = 8.0  WIDTH = 122.5  CONS = FLOORCON
* 329 *          AZIMUTH = 90  ..
* 330 *
* 331 *          WINDOW HEIGHT = 4.0  WIDTH = 2.0  G-T = G_TYPE1
* 332 *          MULTIPLIER = 6.0  ..
* 333 *
* 334 *          DOOR  HEIGHT = 7.5  WIDTH = 3.0  CONS = DOORCON
* 335 *          MULTIPLIER = 8.0  ..
* 336 *
* 337 *          E-W   HEIGHT = 8.0  WIDTH = 64.0  CONS = FLOORCON
* 338 *          AZIMUTH = 180  ..
* 339 *
* 340 *          DOOR  HEIGHT = 7.5  WIDTH = 3.0  CONS = DOORCON
* 341 *          MULTIPLIER = 4.0  ..
* 342 *
* 343 *          E-W   HEIGHT = 8.0  WIDTH = 122.5  CONS = FLOORCON
* 344 *          AZIMUTH = 270  ..
* 345 *
* 346 *          DOOR  HEIGHT = 7.5  WIDTH = 3.0  CONS = DOORCON
* 347 *          MULTIPLIER = 9.0  ..
* 348 *
* 349 *          WINDOW HEIGHT = 4.0  WIDTH = 2.0  G-T = G_TYPE1
* 350 *          MULTIPLIER = 5.0  ..
* 351 *
* 352 *
* 353 * MER_A      =SPACE  AREA = 1.0  VOLUME = 1.0
* 354 *              ZONE-TYPE = CONDITIONED  AREA/PERSON = 100.0
* 355 *              EQUIP-SCHEDULE = VEH_EXH  EQUIPMENT-KW = 8.95
* 356 *              EQUIP-SENSIBLE = 0.0  INF-METHOD = NONE  ..
* 357 *
* 358 *
* 359 * MER_B      =SPACE  AREA = 1.0  VOLUME = 1.0
* 360 *              ZONE-TYPE = CONDITIONED  AREA/PERSON = 100.0
* 361 *              EQUIP-SCHEDULE = COMPR_SCHD  EQUIPMENT-KW = 22.38
* 362 *              EQUIP-SENSIBLE = 0.0  SOURCE-SCHEDULE = HPHW_SCHD
* 363 *              SOURCE-TYPE = HOT-WATER  SOURCE-BTU/HR = 499000.0
* 364 *              SOURCE-SENSIBLE = 0.0  INF-METHOD = NONE  ..
* 365 *
* 366 *
* 367 * END  ..
* 368 * COMPUTE LOADS  ..
* 369 *
* 370 * INPUT SYSTEMS  ..

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SDL PROCESSOR INPUT DATA

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* 371 *
* 372 *
* 373 *          $-----$
* 374 *          $EZ - DOE SYSTEMS INPUT$
* 375 *          $-----$
* 376 *
* 377 *          $ GENERAL PROJECT DATA
* 378 *
* 379 * TITLE LINE-1 * EMC ENGINEERS INC. *
* 380 * LINE-2 *EZDOE - ELITE SOFTWARE DEVELOPMENT INC*
* 381 * LINE-3 * DENVER, CO 80227 *
* 382 *
* 383 * LINE-4 *BUILDING 10670, VEHICLE MAINT. SHOP *
* 384 * LINE-5 *SETBACK, DDC, AND FORCED VENTILATION * ..
* 385 * ABORT ERRORS
* 386 * DIAGNOSTIC WARNINGS
* 387 * SYSTEMS-REPORT VERIFICATION=(SV-A,SV-B)
* 388 * SUMMARY=(SS-A,SS-C,SS-F,SS-I,SS-K,SS-L,SS-M,
* 389 * SS-O)
* 390 * HOURLY-DATA-SAVE = YES ..
* 391 *
* 392 *          $ SCHEDULES
* 393 *
* 394 * FULL_ON_D =DAY-SCHEDULE (1,24) (1.) ..
* 395 * FULL_OFF_D =DAY-SCHEDULE (1,24) (0.) ..
* 396 * HEAT60_D =DAY-SCHEDULE (1,5) (47.)
* 397 * (6,16) (60.)
* 398 * (17,24) (47.) ..
* 399 * HEAT68_D =DAY-SCHEDULE (1,24) (68.) ..
* 400 * COOL75_D =DAY-SCHEDULE (1,24) (75.) ..
* 401 * COOL80_D =DAY-SCHEDULE (1,24) (80.) ..
* 402 * MAUFANON_D =DAY-SCHEDULE (1,5) (0.)
* 403 * (6,16) (1.)
* 404 * (17,24) (0.) ..
* 405 * FAN_WSB_D =DAY-SCHEDULE (1,4) (0.)
* 406 * (5,16) (1.)
* 407 * (17,24) (0.) ..
* 408 * HT68_WSB_D =DAY-SCHEDULE (1,4) (50.)
* 409 * (5,16) (68.)
* 410 * (17,24) (50.) ..
* 411 * HEAT_50_D =DAY-SCHEDULE (1,24) (50.) ..
* 412 * MOA_.13_D =DAY-SCHEDULE (1,5) (0.)
* 413 * (6,16) (0.13)
* 414 * (17,24) (0.) ..
* 415 *
* 416 * FULL_ON_W =WEEK-SCHEDULE (ALL) FULL_ON_D ..
* 417 *
* 418 * FULL_OFF_W =WEEK-SCHEDULE (ALL) FULL_OFF_D ..
* 419 *
* 420 * HEAT60_W =WEEK-SCHEDULE (ALL) HEAT60_D ..
* 421 *
* 422 * HEAT68_W =WEEK-SCHEDULE (ALL) HEAT68_D ..
* 423 *
* 424 * COO75_W =WEEK-SCHEDULE (ALL) COOL75_D ..
* 425 *
* 426 * COOL80_W =WEEK-SCHEDULE (ALL) COOL80_D ..
* 427 *
* 428 * MAUFANON_W =WEEK-SCHEDULE (WD) MAUFANON_D
* 429 * (SAT) FULL_OFF_D
* 430 * (SUN) FULL_OFF_D
* 431 * (HOL) MAUFANON_D ..
* 432 *
* 433 * FAN_WSB_W =WEEK-SCHEDULE (WD) FAN_WSB_D
* 434 * (SAT) FULL_OFF_D
* 435 * (SUN) FULL_OFF_D
* 436 * (HOL) FAN_WSB_D ..
* 437 *
* 438 * HT68_WSB_W =WEEK-SCHEDULE (WD) HT68_WSB_D
* 439 * (SAT) HEAT_50_D
* 440 * (SUN) HEAT_50_D
* 441 * (HOL) HT68_WSB_D ..
* 442 *
* 443 * MOA_.13_W =WEEK-SCHEDULE (ALL) MOA_.13_D ..
* 444 *
* 445 *
* 446 * $ FULL ON SCHEDULE
* 447 * FULL_ON =SCHEDULE THRU DEC 31 FULL_ON_W ..
* 448 *
* 449 * $ FULL OFF SCHEDULE
* 450 * FULL_OFF =SCHEDULE THRU DEC 31 FULL_OFF_W ..
* 451 *
* 452 * $ HEAT SCHEDULE 60 DEG
* 453 * HEAT60_ON =SCHEDULE THRU MAY 15 HEAT60_W
* 454 * THRU OCT 1 FULL_OFF_W
* 455 * THRU DEC 31 HEAT60_W ..
* 456 *
* 457 * $ HEAT SCHEDULE 68 DEG
* 458 * HEAT68_ON =SCHEDULE THRU MAY 15 HEAT68_W
* 459 * THRU OCT 1 FULL_OFF_W
* 460 * THRU DEC 31 HEAT68_W ..
* 461 *
* 462 * $ VENTILATION SCHD 75 DEG
* 463 * COOL75_SCD =SCHEDULE THRU DEC 31 COO75_W ..
* 464 *
* 465 * $ VENTILATION SCHD 80 DEG
* 466 * COOL80_SCH =SCHEDULE THRU DEC 31 COOL80_W ..
* 467 *
* 468 * MAU_FAN_ON =SCHEDULE THRU DEC 31 MAUFANON_W ..
* 469 *
* 470 * $ SUPPLY FAN FOR ADMIN

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* 471 * FAN_W_SB =SCHEDULE THRU DEC 31 FAN_WSB_W ..
* 472 *
* 473 * HT68_WSB =SCHEDULE THRU DEC 31 HT68_WSB_W ..
* 474 *
* 475 * MOA_.13_FV =SCHEDULE THRU DEC 31 MOA_.13_W ..
* 476 *
* 477 *
* 478 *
* 479 *
* 480 *
* 481 * BAY_WEST =ZONE DESIGN-HEAT-T = 60.0 DESIGN-COOL-T = 80.0
* 482 * HEAT-TEMP-SCH = HEAT60_ON ZONE-TYPE = CONDITIONED
* 483 * THERMOSTAT-TYPE = PROPORTIONAL
* 484 * BASEBOARD-CTRL = THERMOSTATIC
* 485 * BASEBOARD-RATING = -509000. ASSIGNED-CFM = 16920.
* 486 * OUTSIDE-AIR-CFM = 16920. SIZING-OPTION = FROM-LOADS ..
* 487 *
* 488 * BAY_EAST =ZONE DESIGN-HEAT-T = 60.0 DESIGN-COOL-T = 80.0
* 489 * HEAT-TEMP-SCH = HEAT60_ON ZONE-TYPE = CONDITIONED
* 490 * THERMOSTAT-TYPE = PROPORTIONAL
* 491 * BASEBOARD-CTRL = THERMOSTATIC
* 492 * BASEBOARD-RATING = -1109000. ASSIGNED-CFM = 20000.
* 493 * OUTSIDE-AIR-CFM = 20000. SIZING-OPTION = FROM-LOADS
* 494 * MIN-CFM-RATIO = 1.0 ..
* 495 *
* 496 * ADMIN =ZONE DESIGN-HEAT-T = 68.0 DESIGN-COOL-T = 75.0
* 497 * HEAT-TEMP-SCH = HT68_WSB ZONE-TYPE = CONDITIONED
* 498 * THERMOSTAT-TYPE = PROPORTIONAL THROTTLING-RANGE = 1.0
* 499 * BASEBOARD-CTRL = THERMOSTATIC
* 500 * BASEBOARD-RATING = -17400. ASSIGNED-CFM = 11410.
* 501 * OUTSIDE-AIR-CFM = 1521. SIZING-OPTION = FROM-LOADS
* 502 * EXHAUST-CFM = 1521.0 EXHAUST-STATIC = 1.0
* 503 * HEATING-CAPACITY = -366100.0 ..
* 504 *
* 505 * MER_A =ZONE DESIGN-HEAT-T = 70.0 DESIGN-COOL-T = 75.0
* 506 * ZONE-TYPE = CONDITIONED
* 507 * THERMOSTAT-TYPE = PROPORTIONAL THROTTLING-RANGE = 5.0
* 508 * ASSIGNED-CFM = 10. OUTSIDE-AIR-CFM = 10.
* 509 * SIZING-OPTION = FROM-LOADS ..
* 510 *
* 511 * MER_B =ZONE DESIGN-HEAT-T = 70.0 DESIGN-COOL-T = 75.0
* 512 * ZONE-TYPE = CONDITIONED
* 513 * THERMOSTAT-TYPE = PROPORTIONAL THROTTLING-RANGE = 5.0
* 514 * ASSIGNED-CFM = 10. OUTSIDE-AIR-CFM = 10.
* 515 * SIZING-OPTION = FROM-LOADS ..
* 516 *
* 517 *
* 518 *
* 519 *
* 520 * HV-2 =SYSTEM SYSTEM-TYPE = HVSYS
* 521 * MAX-SUPPLY-T = 120.0 MIN-HUMIDITY = 30.0
* 522 * ECONO-LIMIT-T = 65.0 ECONO-LOW-LIMIT = 55.0
* 523 * HEAT-CONTROL = COLDEST SUPPLY-CFM = 11410.
* 524 * RETURN-CFM = 9889. RATED-CFM = 11410.
* 525 * MIN-OUTSIDE-AIR = 0.13 MIN-AIR-SCH = MOA_.13_FV
* 526 * FAN-SCHEDULE = FAN_W_SB SUPPLY-DELTA-T = 2.4
* 527 * SUPPLY-KW = 0.00078
* 528 * MOTOR-PLACEMENT = OUTSIDE-AIRFLOW
* 529 * NIGHT-CYCLE-CTRL = CYCLE-ON-ANY NIGHT-VENT-DT = 0.0
* 530 * HEATING-CAPACITY = -366100. FURNACE-AUX = 0.
* 531 * RETURN-AIR-PATH = DUCT
* 532 * ZONE-NAMES = (ADMIN) ..
* 533 *
* 534 * MAU-3 =SYSTEM SYSTEM-TYPE = HVSYS
* 535 * MAX-SUPPLY-T = 70.0 MIN-HUMIDITY = 30.0
* 536 * ECONO-LIMIT-T = 65.0 ECONO-LOW-LIMIT = 55.0
* 537 * HEAT-CONTROL = COLDEST SUPPLY-CFM = 16920.
* 538 * RATED-CFM = 16920. MIN-OUTSIDE-AIR = 1.0
* 539 * FAN-SCHEDULE = MAU_FAN_ON SUPPLY-DELTA-T = 2.4
* 540 * SUPPLY-KW = 0.00078
* 541 * MOTOR-PLACEMENT = OUTSIDE-AIRFLOW
* 542 * NIGHT-CYCLE-CTRL = CYCLE-ON-ANY NIGHT-VENT-DT = 0.0
* 543 * HEATING-CAPACITY = -1408000. FURNACE-AUX = 0.
* 544 * RETURN-AIR-PATH = DUCT
* 545 * ZONE-NAMES = (BAY_WEST) ..
* 546 *
* 547 * MAU-4 =SYSTEM SYSTEM-TYPE = HVSYS
* 548 * MAX-SUPPLY-T = 70.0 MIN-HUMIDITY = 30.0
* 549 * ECONO-LIMIT-T = 65.0 ECONO-LOW-LIMIT = 55.0
* 550 * HEAT-CONTROL = COLDEST SUPPLY-CFM = 20000.
* 551 * RATED-CFM = 20000. MIN-OUTSIDE-AIR = 1.0
* 552 * FAN-SCHEDULE = MAU_FAN_ON SUPPLY-DELTA-T = 2.4
* 553 * SUPPLY-KW = 0.00078
* 554 * MOTOR-PLACEMENT = OUTSIDE-AIRFLOW
* 555 * NIGHT-CYCLE-CTRL = CYCLE-ON-ANY NIGHT-VENT-DT = 0.0
* 556 * HEATING-CAPACITY = -1664300. FURNACE-AUX = 0.
* 557 * RETURN-AIR-PATH = DUCT
* 558 * ZONE-NAMES = (BAY_EAST) ..
* 559 *
* 560 * IMAG_UH =SYSTEM SYSTEM-TYPE = UHT
* 561 * MAX-SUPPLY-T = 135.0 HEATING-SCHEDULE = FULL_OFF
* 562 * SUPPLY-DELTA-T = 0.18 SUPPLY-KW = 0.000059
* 563 * NIGHT-CYCLE-CTRL = CYCLE-ON-ANY FURNACE-AUX = 0.
* 564 * ZONE-NAMES = (MER_A, MER_B) ..
* 565 *
* 566 * END ..
* 567 * COMPUTE SYSTEMS ..
* 568 *
* 569 * INPUT PLANT ..

```

P D L P R O C E S S O R I N P U T D A T A

3/18/1995 9:54:37 PDL RUN 1

```

* 570 *
* 571 *
* 572 *          $-----$
* 573 *          $ E Z - D O E P L A N T S I N P U T $
* 574 *          $-----$
* 575 *
* 576 *          $ GENERAL PROJECT DATA
* 577 *
* 578 * TITLE LINE-1 *      BMC      ENGINEERS      INC.      *
* 579 * LINE-2 *EZDOE - ELITE SOFTWARE DEVELOPMENT INC*
* 580 * LINE-3 *      DENVER,      CO      80227      *
* 581 *
* 582 * LINE-4 *BUILDING 10670, VEHICLE MAINT. SHOP      *
* 583 * LINE-5 *SETBACK, DDC, AND FORCED VENTILATION      * ..
* 584 *
* 585 * ABORT      ERRORS      ..
* 586 * DIAGNOSTIC      WARNINGS ..
* 587 * PLANT-REPORT      SUMMARY=(PS-A,PS-B,PS-C,PS-H,BEPS)
* 588 *
* 589 *      HOURLY-DATA-SAVE = YES      ..
* 590 *
* 591 *          $ SCHEDULES
* 592 *
* 593 *
* 594 *
* 595 *
* 596 *
* 597 *          $ EQUIPMENT DESCRIPTION
* 598 *
* 599 * HTP_2      =PLANT-EQUIPMENT      TYPE = HTANK-STORAGE
* 600 *          SIZE = 4.6      ..
* 601 *
* 602 * HPHW      =PLANT-EQUIPMENT      TYPE = HTANK-STORAGE
* 603 *          SIZE = 0.5      ..
* 604 *
* 605 * PLANT-PARAMETERS      CCIRC-HEAD = 33.0      ..
* 606 *
* 607 *
* 608 * ENERGY-RESOURCE      RESOURCE = ELECTRICITY      ..
* 609 * ENERGY-RESOURCE      RESOURCE = STEAM      SOURCE-SITE-EFF = 1.000      ..
* 610 *
* 611 * ENERGY-STORAGE      HEAT-STORE-RATE = 4.62      HEAT-SUPPLY-RATE = 4.62
* 612 *          HTANK-BASE-T = 195.0      HTANK-T-RANGE = 5.0      ..
* 613 *
* 614 *      HEAT-RECOVERY
* 615 *          SUPPLY-1 = (HTANK-STORAGE,HTANK-STORAGE)
* 616 *          DEMAND-1 = (SPACE-HEAT,PROCESS-HEAT)      ..
* 617 *
* 618 * HTP-2_ASGN =LOAD-ASSIGNMENT      TYPE = HEATING
* 619 *          OPERATION-MODE = RUN-NEEDED
* 620 *
* 621 *          LOAD-RANGE =      4.250
* 622 *          PLANT-EQUIPMENT = HTP_2
* 623 *          NUMBER =      1      ..
* 624 *
* 625 *
* 626 *
* 627 * END      ..
* 628 * COMPUTE PLANT ..
* 629 * STOP      ..

```

ENERGY TYPE IN SITE MBTU-	STEAM	ELECTRICITY
CATEGORY OF USE		
SPACE HEAT	5,401.36	0.00
SPACE COOL	0.00	0.00
HVAC AUX	0.00	497.01
DOM HOT WTR	209.98	0.00
AUX SOLAR	0.00	0.00
LIGHTS	0.00	319.36
VERT TRANS	0.00	0.00
MISC EQUIP	0.00	508.85
	-----	-----
TOTAL	5,611.34	1,325.22

TOTAL SITE ENERGY 6936.57 MBTU 159.4 KBTU/SQFT-YR GROSS-AREA 159.4 KBTU/SQFT-YR NET-AREA  
 TOTAL SOURCE ENERGY 9591.00 MBTU 220.4 KBTU/SQFT-YR GROSS-AREA 220.4 KBTU/SQFT-YR NET-AREA

PERCENT OF HOURS ANY SYSTEM ZONE OUTSIDE OF THROTTLING RANGE = 9.1  
 PERCENT OF HOURS ANY PLANT LOAD NOT SATISFIED = 0.0

NOTE ELECTRICITY AND/OR FUEL USED TO GENERATE ELECTRICITY IS APPORTIONED BASED  
 ON THE YEARLY DEMAND. ALL OTHER ENERGY TYPES ARE APPORTIONED HOURLY.

MO	UTILITY-	STEAM	ELECTRICITY
	TOTAL (MBTU)	1334.214	111.242
JAN	PEAK (KBTU)	7143.644	334.294
	DY/HR	5/12	31/14
	TOTAL (MBTU)	929.277	101.118
FEB	PEAK (KBTU)	5657.392	334.294
	DY/HR	4/12	28/14
	TOTAL (MBTU)	933.655	112.453
MAR	PEAK (KBTU)	5685.908	334.294
	DY/HR	9/ 7	31/14
	TOTAL (MBTU)	415.229	99.323
APR	PEAK (KBTU)	3786.499	334.294
	DY/HR	1/ 7	29/14
	TOTAL (MBTU)	135.846	110.379
MAY	PEAK (KBTU)	2604.468	448.869
	DY/HR	3/ 7	20/14
	TOTAL (MBTU)	23.083	120.769
JUN	PEAK (KBTU)	567.400	448.869
	DY/HR	29/12	20/14
	TOTAL (MBTU)	18.056	125.037
JUL	PEAK (KBTU)	567.400	424.643
	DY/HR	29/12	29/14
	TOTAL (MBTU)	21.404	117.941
AUG	PEAK (KBTU)	567.400	448.869
	DY/HR	31/12	30/14
	TOTAL (MBTU)	28.824	114.985
SEP	PEAK (KBTU)	631.145	448.869
	DY/HR	23/12	16/14
	TOTAL (MBTU)	287.546	99.228
OCT	PEAK (KBTU)	3100.963	334.294
	DY/HR	28/ 8	31/14
	TOTAL (MBTU)	547.687	103.178
NOV	PEAK (KBTU)	4204.534	334.294
	DY/HR	29/ 7	30/14
	TOTAL (MBTU)	936.518	109.573
DEC	PEAK (KBTU)	5538.219	334.294
	DY/HR	28/ 7	30/14
	ONE YEAR	5611.341	1325.227
	USE/PEAK	7143.644	448.869

**COMPUTER SIMULATIONS**

BUILDING 10715

**COMPUTER SIMULATIONS**  
BUILDING 10715

BASE RUN

# LDL PROCESSOR INPUT DATA

3/18/1995 10:44:55 LDL RUN 1

```

* 3 *
* 4 *
* 5 *      $-----$
* 6 *      $EZ-DOE LOADS INPUT$
* 7 *      $-----$
* 8 *
* 9 *      $ GENERAL PROJECT DATA
* 10 *
* 11 * TITLE LINE-1 * EMC ENGINEERS INC. *
* 12 * LINE-2 *EZDOE - ELITE SOFTWARE DEVELOPMENT INC*
* 13 * LINE-3 * DENVER, CO 80227 *
* 14 *
* 15 * LINE-4 *BUILDING 10715, POST SAFETY/LEA *
* 16 * LINE-5 *BASE MODEL *..
* 17 *
* 18 * ABORT ERRORS ..
* 19 * DIAGNOSTIC WARNINGS ..
* 20 * LOADS-REPORT VERIFICATION=(LV-A,LV-B,LV-C)
* 21 * SUMMARY=(LS-A,LS-B,LS-C,LS-D,LS-E,LS-F,LS-K) ..
* 22 * BUILDING-LOCATION LATITUDE = 44.0
* 23 * ALTITUDE = 655.
* 24 * AZIMUTH = -130.
* 25 * TIME-ZONE = 5
* 26 * GROSS-AREA = 50591
* 27 * HOLIDAY = NO
* 28 * SHIELDING-COEF = 0.29
* 29 * X-REF = 0.0
* 30 * Y-REF = 0.0 ..
* 31 * RUN-PERIOD JAN 1 1994 THRU DEC 31 1994 ..
* 32 *
* 33 *
* 34 *      $ SCHEDULES
* 35 *
* 36 * LIGHTS =DAY-SCHEDULE (1,2) (1.)
* 37 *      (3,11) (0.5)
* 38 *      (12,13) (0.6)
* 39 *      (14,24) (1.) ..
* 40 *
* 41 * OCCUP =DAY-SCHEDULE (1,5) (0.)
* 42 *      (6,10) (0.1,0.5,0.9,0.8,0.5)
* 43 *      (11,14) (0.7,0.9,0.8,0.4)
* 44 *      (15,16) (0.3)
* 45 *      (17,18) (0.5,0.9)

```



\* 46 \* (19,20) (0.7,0.2)  
 \* 47 \* (21,24) (0.) ..  
 \* 48 \*  
 \* 49 \* APPLIANCE =DAY-SCHEDULE (1) (0.)  
 \* 50 \* (2,3) (0.7)  
 \* 51 \* (4,12) (0.02)  
 \* 52 \* (13,15) (0.6)  
 \* 53 \* (16,18) (0.02)  
 \* 54 \* (19,20) (0.7)  
 \* 55 \* (21,24) (0.8) ..  
 \* 56 \*  
 \* 57 \* CND\_DAY =DAY-SCHEDULE (1,24) (1.) ..  
 \* 58 \*  
 \* 59 \* FULL\_OFFD =DAY-SCHEDULE (1,24) (0.) ...  
 \* 60 \*  
 \* 61 \* appliance =DAY-SCHEDULE (1,5) (0.)  
 \* 62 \* (6,7) (0.4)  
 \* 63 \* (8,11) (0.6)  
 \* 64 \* (12,13) (0.8)  
 \* 65 \* (14,15) (0.5)  
 \* 66 \* (16,17) (0.8)  
 \* 67 \* (18,19) (0.6)  
 \* 68 \* (20,24) (0.) ..  
 \* 69 \*  
 \* 70 \* lights =DAY-SCHEDULE (1,5) (0.2)  
 \* 71 \* (6) (0.5)  
 \* 72 \* (7,17) (0.9)  
 \* 73 \* (18,19) (0.8,0.7)  
 \* 74 \* (20,24) (0.2) ..  
 \* 75 \*  
 \* 76 \* worship =DAY-SCHEDULE (1,6) (0.)  
 \* 77 \* (7,10) (0.2,0.7,0.8,0.5)  
 \* 78 \* (11,16) (0.2)  
 \* 79 \* (17,18) (0.1,0.3)  
 \* 80 \* (19,20) (0.5,0.2)  
 \* 81 \* (21,24) (0.) ..  
 \* 82 \*  
 \* 83 \* chapelwkdy =DAY-SCHEDULE (1,7) (0.)  
 \* 84 \* (8,18) (0.2)  
 \* 85 \* (19,20) (0.3)  
 \* 86 \* (21,24) (0.) ..  
 \* 87 \*  
 \* 88 \*  
 \* 89 \* PEOPLE =WEEK-SCHEDULE (ALL) OCCUP ..  
 \* 90 \*  
 \* 91 \* LIGHTS\_WK =WEEK-SCHEDULE (ALL) lights ..  
 \* 92 \*  
 \* 93 \* APPLI\_WK =WEEK-SCHEDULE (ALL) appliance ..  
 \* 94 \*  
 \* 95 \* CND\_WK =WEEK-SCHEDULE (ALL) CND\_DAY ..

\* 96 \*  
 \* 97 \* FULL\_OFFW =WEEK-SCHEDULE (ALL) FULL\_OFFD ..  
 \* 98 \*  
 \* 99 \* chapel =WEEK-SCHEDULE (WD) chapelwkdy  
 \* 100 \*               (SAT) chapelwkdy  
 \* 101 \*               (SUN) worship  
 \* 102 \*               (HOL) worship ..  
 \* 103 \*  
 \* 104 \*  
 \* 105 \* \$ FULL\_ON SCHEDULE  
 \* 106 \* FULL\_ON =SCHEDULE THRU DEC 31 PEOPLE ..  
 \* 107 \*  
 \* 108 \* \$ LOADS OCCUPANCY SCHED  
 \* 109 \* OCCUPANCY =SCHEDULE THRU DEC 31 PEOPLE ..  
 \* 110 \*  
 \* 111 \* \$ LIGHTING SCHEDULE  
 \* 112 \* LIGHTS\_ON =SCHEDULE THRU DEC 31 LIGHTS\_WK ..  
 \* 113 \*  
 \* 114 \* \$ APPLIANCE SCHEDULE  
 \* 115 \* APPLI\_ON =SCHEDULE THRU DEC 31 APPLI\_WK ..  
 \* 116 \*  
 \* 117 \* \$ COND VENTIL SCHED  
 \* 118 \* CND\_SCHED =SCHEDULE THRU MAR 1 FULL\_OFFW  
 \* 119 \*               THRU NOV 30 CND\_WK  
 \* 120 \*               THRU DEC 31 FULL\_OFFW ..  
 \* 121 \*  
 \* 122 \* \$ LOADS OCCUPANCY SCHED  
 \* 123 \* Chapelschd =SCHEDULE THRU DEC 31 chapel ..  
 \* 124 \*  
 \* 125 \*  
 \* 126 \*  
 \* 127 \*               \$ CONSTRUCTION TYPES  
 \* 128 \*  
 \* 129 \*  
 \* 130 \*  
 \* 131 \*  
 \* 132 \* \$ DOOR CONSTRUCTION  
 \* 133 \* DOORCON =CONSTRUCTION U-VALUE = 0.400 ..  
 \* 134 \* FLOOR =CONSTRUCTION U-VALUE = 0.100  
 \* 135 \*               ABSORPTANCE = 1.000  
 \* 136 \*               ROUGHNESS = 1 ..  
 \* 137 \* ROOFCON =CONSTRUCTION U-VALUE = 0.050 ..  
 \* 138 \* EXWALL =CONSTRUCTION U-VALUE = 0.200  
 \* 139 \*               ABSORPTANCE = 0.750 ..  
 \* 140 \* INWALL =CONSTRUCTION U-VALUE = 0.500 ..  
 \* 141 \*  
 \* 142 \* GTYPE\_1 =GLASS-TYPE SHADING-COEF = 0.400  
 \* 143 \*               PANES = 1  
 \* 144 \*               GLASS-CONDUCTANCE = 1.130 ..  
 \* 145 \* GTYPE\_2 =GLASS-TYPE SHADING-COEF = 0.300

\* 146 \* PANES = 1  
 \* 147 \* GLASS-CONDUCTANCE = 0.790 ..  
 \* 148 \* GTYPE\_3 =GLASS-TYPE SHADING-COEF = 0.400  
 \* 149 \* PANES = 1  
 \* 150 \* GLASS-CONDUCTANCE = 0.360 ..  
 \* 151 \*  
 \* 152 \*  
 \* 153 \*  
 \* 154 \*  
 \* 155 \* \$ SPACE DESCRIPTION  
 \* 156 \*  
 \* 157 \* GROUNDFLOR =SPACE AREA = 14790.0 VOLUME = 133110.0  
 \* 158 \* AZIMUTH = 45 TEMPERATURE = (68.)  
 \* 159 \* ZONE-TYPE = CONDITIONED PEOPLE-SCHEDULE = FULL\_ON  
 \* 160 \* NUMBER-OF-PEOPLE = 50.0 PEOPLE-HEAT-GAIN = 550.0  
 \* 161 \* LIGHTING-KW = 14.0 LIGHTING-SCHEDULE = FULL\_ON  
 \* 162 \* EQUIP-SCHEDULE = FULL\_ON EQUIPMENT-KW = 3.0  
 \* 163 \* INF-METHOD = AIR-CHANGE AIR-CHANGES/HR = 1.25  
 \* 164 \* INF-SCHEDULE = FULL\_ON ..  
 \* 165 \*  
 \* 166 \* E-W HEIGHT = 9.0 WIDTH = 56.0 CONS = EXWALL  
 \* 167 \* AZIMUTH = 45 ..  
 \* 168 \*  
 \* 169 \* WINDOW HEIGHT = 5.0 WIDTH = 3.0 G-T = GTYPE\_1  
 \* 170 \* MULTIPLIER = 5.0 ..  
 \* 171 \*  
 \* 172 \* DOOR HEIGHT = 8.0 WIDTH = 3.0 CONS = DOORCON ..  
 \* 173 \*  
 \* 174 \* E-W HEIGHT = 9.0 WIDTH = 72.0 CONS = EXWALL  
 \* 175 \* AZIMUTH = 135 ..  
 \* 176 \*  
 \* 177 \* WINDOW HEIGHT = 5.0 WIDTH = 3.0 G-T = GTYPE\_1  
 \* 178 \* MULTIPLIER = 5.0 ..  
 \* 179 \*  
 \* 180 \* DOOR HEIGHT = 8.0 WIDTH = 3.0 CONS = DOORCON  
 \* 181 \* MULTIPLIER = 2.0 ..  
 \* 182 \*  
 \* 183 \* E-W HEIGHT = 9.0 WIDTH = 23.0 CONS = EXWALL  
 \* 184 \* AZIMUTH = 45 ..  
 \* 185 \*  
 \* 186 \* WINDOW HEIGHT = 5.0 WIDTH = 3.0 G-T = GTYPE\_1  
 \* 187 \* MULTIPLIER = 3.0 ..  
 \* 188 \*  
 \* 189 \* E-W HEIGHT = 9.0 WIDTH = 48.0 CONS = EXWALL  
 \* 190 \* AZIMUTH = 135 ..  
 \* 191 \*  
 \* 192 \* WINDOW HEIGHT = 5.0 WIDTH = 3.0 G-T = GTYPE\_1  
 \* 193 \* MULTIPLIER = 6.0 ..  
 \* 194 \*  
 \* 195 \* E-W HEIGHT = 9.0 WIDTH = 23.0 CONS = EXWALL

\* 196 \*           AZIMUTH = 225 ..  
 \* 197 \*  
 \* 198 \*       WINDOW HEIGHT = 5.0 WIDTH = 3.0 G-T = GTYPE\_1  
 \* 199 \*       MULTIPLIER = 3.0 ..  
 \* 200 \*  
 \* 201 \*       E-W   HEIGHT = 9.0 WIDTH = 18.0 CONS = EXWALL  
 \* 202 \*       AZIMUTH = 135 ..  
 \* 203 \*  
 \* 204 \*       E-W   HEIGHT = 9.0 WIDTH = 55.0 CONS = EXWALL  
 \* 205 \*       AZIMUTH = 225 ..  
 \* 206 \*  
 \* 207 \*       WINDOW HEIGHT = 5.0 WIDTH = 3.0 G-T = GTYPE\_1  
 \* 208 \*       MULTIPLIER = 6.0 ..  
 \* 209 \*  
 \* 210 \*       E-W   HEIGHT = 9.0 WIDTH = 18.0 CONS = EXWALL  
 \* 211 \*       AZIMUTH = 315 ..  
 \* 212 \*  
 \* 213 \*       WINDOW HEIGHT = 5.0 WIDTH = 3.0 G-T = GTYPE\_1  
 \* 214 \*       MULTIPLIER = 2.0 ..  
 \* 215 \*  
 \* 216 \*       E-W   HEIGHT = 9.0 WIDTH = 133.0 CONS = EXWALL  
 \* 217 \*       AZIMUTH = 45 ..  
 \* 218 \*  
 \* 219 \*       WINDOW HEIGHT = 5.0 WIDTH = 3.0 G-T = GTYPE\_1  
 \* 220 \*       MULTIPLIER = 13.0 ..  
 \* 221 \*  
 \* 222 \*       E-W   HEIGHT = 9.0 WIDTH = 48.0 CONS = EXWALL  
 \* 223 \*       AZIMUTH = 315 ..  
 \* 224 \*  
 \* 225 \*       DOOR   HEIGHT = 8.0 WIDTH = 3.0 CONS = DOORCON..  
 \* 226 \*  
 \* 227 \*       E-W   HEIGHT = 9.0 WIDTH = 133.0 CONS = EXWALL  
 \* 228 \*       AZIMUTH = 45 ..  
 \* 229 \*  
 \* 230 \*       DOOR   HEIGHT = 8.0 WIDTH = 3.0 CONS = DOORCON  
 \* 231 \*       MULTIPLIER = 7.0 ..  
 \* 232 \*  
 \* 233 \*       U-W   HEIGHT = 121.6 WIDTH = 121.6 CONS = FLOOR  
 \* 234 \*       AZIMUTH = 45 ..  
 \* 235 \*  
 \* 236 \*       I-W   HEIGHT = 121.6 WIDTH = 121.6 CONS = INWALL  
 \* 237 \*       AZIMUTH = 45 NEXT-TO = SECONDFLOR ..  
 \* 238 \*  
 \* 239 \*       E-W   HEIGHT = 9.0 WIDTH = 72.0 CONS = EXWALL  
 \* 240 \*       AZIMUTH = 315 ..  
 \* 241 \*  
 \* 242 \*       DOOR   HEIGHT = 8.0 WIDTH = 3.0 CONS = DOORCON  
 \* 243 \*       MULTIPLIER = 2.0 ..  
 \* 244 \*  
 \* 245 \*       WINDOW HEIGHT = 5.0 WIDTH = 3.0 G-T = GTYPE\_1

\* 246 \*           MULTIPLIER = 8.0 ..  
 \* 247 \*  
 \* 248 \*   I-W   HEIGHT = 9.0 WIDTH = 10.0 CONS = INWALL  
 \* 249 \*           NEXT-TO = DISPATCH ..  
 \* 250 \*  
 \* 251 \*   I-W   HEIGHT = 9.0 WIDTH = 37.0 CONS = INWALL  
 \* 252 \*           NEXT-TO = DISPATCH ..  
 \* 253 \*  
 \* 254 \*   I-W   HEIGHT = 9.0 WIDTH = 10.0 CONS = INWALL  
 \* 255 \*           NEXT-TO = DISPATCH ..  
 \* 256 \*  
 \* 257 \*   I-W   HEIGHT = 9.0 WIDTH = 37.0 CONS = INWALL  
 \* 258 \*           NEXT-TO = DISPATCH ..  
 \* 259 \*  
 \* 260 \*  
 \* 261 \* SECONDFLOR =SPACE   AREA = 12020.0 VOLUME = 108180.0  
 \* 262 \*           AZIMUTH = 45   TEMPERATURE = (68.)  
 \* 263 \*           ZONE-TYPE = CONDITIONED   PEOPLE-SCHEDULE = FULL\_ON  
 \* 264 \*           NUMBER-OF-PEOPLE = 25.0   PEOPLE-HEAT-GAIN = 550.0  
 \* 265 \*           LIGHTING-KW = 14.0   LIGHTING-SCHEDULE = FULL\_ON  
 \* 266 \*           EQUIP-SCHEDULE = FULL\_ON   EQUIPMENT-KW = 3.0  
 \* 267 \*           INF-METHOD = AIR-CHANGE   AIR-CHANGES/HR = 1.0  
 \* 268 \*           INF-SCHEDULE = FULL\_ON ..  
 \* 269 \*  
 \* 270 \*   E-W   HEIGHT = 9.0 WIDTH = 56.0 CONS = EXWALL  
 \* 271 \*           AZIMUTH = 45 ..  
 \* 272 \*  
 \* 273 \*   WINDOW HEIGHT = 5.0 WIDTH = 3.0 G-T = GTYPE\_1  
 \* 274 \*           MULTIPLIER = 6.0 ..  
 \* 275 \*  
 \* 276 \*   E-W   HEIGHT = 9.0 WIDTH = 72.0 CONS = EXWALL  
 \* 277 \*           AZIMUTH = 135 ..  
 \* 278 \*  
 \* 279 \*   WINDOW HEIGHT = 5.0 WIDTH = 3.0 G-T = GTYPE\_1  
 \* 280 \*           MULTIPLIER = 7.0 ..  
 \* 281 \*  
 \* 282 \*   E-W   HEIGHT = 9.0 WIDTH = 23.0 CONS = EXWALL  
 \* 283 \*           AZIMUTH = 45 ..  
 \* 284 \*  
 \* 285 \*   WINDOW HEIGHT = 5.0 WIDTH = 3.0 G-T = GTYPE\_1  
 \* 286 \*           MULTIPLIER = 3.0 ..  
 \* 287 \*  
 \* 288 \*   E-W   HEIGHT = 9.0 WIDTH = 48.0 CONS = EXWALL  
 \* 289 \*           AZIMUTH = 135 ..  
 \* 290 \*  
 \* 291 \*   WINDOW HEIGHT = 5.0 WIDTH = 3.0 G-T = GTYPE\_1  
 \* 292 \*           MULTIPLIER = 6.0 ..  
 \* 293 \*  
 \* 294 \*   E-W   HEIGHT = 9.0 WIDTH = 23.0 CONS = EXWALL  
 \* 295 \*           AZIMUTH = 225 ..

\* 296 \*  
 \* 297 \* E-W HEIGHT = 9.0 WIDTH = 18.0 CONS = EXWALL  
 \* 298 \* AZIMUTH = 135 ..  
 \* 299 \*  
 \* 300 \* E-W HEIGHT = 9.0 WIDTH = 55.0 CONS = EXWALL  
 \* 301 \* AZIMUTH = 225 ..  
 \* 302 \*  
 \* 303 \* WINDOW HEIGHT = 5.0 WIDTH = 3.0 G-T = GTYPE\_1  
 \* 304 \* MULTIPLIER = 6.0 ..  
 \* 305 \*  
 \* 306 \* E-W HEIGHT = 9.0 WIDTH = 18.0 CONS = EXWALL  
 \* 307 \* AZIMUTH = 315 ..  
 \* 308 \*  
 \* 309 \* WINDOW HEIGHT = 5.0 WIDTH = 3.0 G-T = GTYPE\_1  
 \* 310 \* MULTIPLIER = 2.0 ..  
 \* 311 \*  
 \* 312 \* E-W HEIGHT = 9.0 WIDTH = 21.0 CONS = EXWALL  
 \* 313 \* AZIMUTH = 45 TILT = 0 ..  
 \* 314 \*  
 \* 315 \* WINDOW HEIGHT = 5.0 WIDTH = 3.0 G-T = GTYPE\_1  
 \* 316 \* MULTIPLIER = 7.0 ..  
 \* 317 \*  
 \* 318 \* E-W HEIGHT = 9.0 WIDTH = 48.0 CONS = EXWALL  
 \* 319 \* AZIMUTH = 315 ..  
 \* 320 \*  
 \* 321 \* E-W HEIGHT = 9.0 WIDTH = 21.0 CONS = EXWALL  
 \* 322 \* AZIMUTH = 45 ..  
 \* 323 \*  
 \* 324 \* WINDOW HEIGHT = 5.0 WIDTH = 3.0 G-T = GTYPE\_1  
 \* 325 \* MULTIPLIER = 6.0 ..  
 \* 326 \*  
 \* 327 \* I-W HEIGHT = 97.0 WIDTH = 97.0 CONS = INWALL  
 \* 328 \* AZIMUTH = 45 NEXT-TO = GROUNDFLOR ..  
 \* 329 \*  
 \* 330 \* ROOF HEIGHT = 97.0 WIDTH = 97.0 CONS = ROOFCON  
 \* 331 \* AZIMUTH = 45 TILT = 0 ..  
 \* 332 \*  
 \* 333 \* E-W HEIGHT = 9.0 WIDTH = 72.0 CONS = EXWALL  
 \* 334 \* AZIMUTH = 315 ..  
 \* 335 \*  
 \* 336 \* WINDOW HEIGHT = 5.0 WIDTH = 3.0 G-T = GTYPE\_1  
 \* 337 \* MULTIPLIER = 10.0 ..  
 \* 338 \*  
 \* 339 \*  
 \* 340 \* DISPATCH =SPACE AREA = 370.0 VOLUME = 3400.0  
 \* 341 \* AZIMUTH = 45 TEMPERATURE = (68.)  
 \* 342 \* ZONE-TYPE = CONDITIONED PEOPLE-SCHEDULE = FULL\_ON  
 \* 343 \* NUMBER-OF-PEOPLE = 5.0 PEOPLE-HEAT-GAIN = 550.0  
 \* 344 \* LIGHTING-SCHEDULE = FULL\_ON EQUIP-SCHEDULE = FULL\_ON  
 \* 345 \* INF-METHOD = AIR-CHANGE AIR-CHANGES/HR = 0.25

```

* 346 *      INF-SCHEDULE = FULL_ON ..
* 347 *
* 348 *      I-W  HEIGHT = 9.0 WIDTH = 10.0 CONS = INWALL
* 349 *      NEXT-TO = GROUNDFLOR ..
* 350 *
* 351 *      I-W  HEIGHT = 9.0 WIDTH = 37.0 CONS = INWALL
* 352 *      NEXT-TO = GROUNDFLOR ..
* 353 *
* 354 *      I-W  HEIGHT = 9.0 WIDTH = 10.0 CONS = INWALL
* 355 *      NEXT-TO = GROUNDFLOR ..
* 356 *
* 357 *      I-W  HEIGHT = 9.0 WIDTH = 37.0 CONS = INWALL
* 358 *      NEXT-TO = GROUNDFLOR ..
* 359 *
* 360 *      I-W  HEIGHT = 10.0 WIDTH = 37.0 CONS = ROOFCON
* 361 *      NEXT-TO = SECONDFLOR ..
* 362 *
* 363 *      U-W  HEIGHT = 10.0 WIDTH = 37.0 CONS = FLOOR ..
* 364 *
* 365 *
* 366 * END ..
* 367 * COMPUTE LOADS ..
* 368 *
* 369 * INPUT SYSTEMS ..

```

# SDL PROCESSOR INPUT DATA

3/18/1995 10:44:55 SDL RUN 1

```

* 370 *
* 371 *
* 372 *      $-----$
* 373 *      $EZ-DOE SYSTEMS INPUT$
* 374 *      $-----$
* 375 *
* 376 *      $ GENERAL PROJECT DATA
* 377 *
* 378 * TITLE LINE-1 * EMC ENGINEERS INC. *
* 379 * LINE-2 *EZDOE - ELITE SOFTWARE DEVELOPMENT INC*
* 380 * LINE-3 * DENVER, CO 80227 *
* 381 *
* 382 * LINE-4 *BUILDING 10715, POST SAFETY/LEA *
* 383 * LINE-5 *BASE MODEL *..
* 384 * ABORT ERRORS ..
* 385 * DIAGNOSTIC WARNINGS ..
* 386 * SYSTEMS-REPORT VERIFICATION=(SV-A,SV-B)
* 387 * SUMMARY=(SS-A,SS-B,SS-C,SS-D,SS-E,SS-F,SS-G,

```

\* 388 \*           SS-H,SS-I,SS-J,SS-K,SS-L,SS-M,SS-N,  
 \* 389 \*           SS-O) ..  
 \* 390 \*  
 \* 391 \*           \$ SCHEDULES  
 \* 392 \*  
 \* 393 \* D\_FULL    =DAY-SCHEDULE (1,24) (1.) ..  
 \* 394 \* D\_OFF     =DAY-SCHEDULE (1,24) (0.) ..  
 \* 395 \* HEAT\_68\_D =DAY-SCHEDULE (1,24) (70.) ..  
 \* 396 \* COOL\_72\_D =DAY-SCHEDULE (1,24) (72.) ..  
 \* 397 \*  
 \* 398 \* W\_FULL    =WEEK-SCHEDULE (ALL) D\_FULL ..  
 \* 399 \*  
 \* 400 \* FULL\_OFF\_W=WEEK-SCHEDULE (ALL) D\_OFF ..  
 \* 401 \*  
 \* 402 \* HEAT\_68\_W =WEEK-SCHEDULE (ALL) HEAT\_68\_D ..  
 \* 403 \*  
 \* 404 \* COOL\_72\_W =WEEK-SCHEDULE (ALL) COOL\_72\_D ..  
 \* 405 \*  
 \* 406 \*  
 \* 407 \* FULL\_ON   =SCHEDULE THRU DEC 31 W\_FULL ..  
 \* 408 \*  
 \* 409 \* FULL\_OFF   =SCHEDULE THRU DEC 31 FULL\_OFF\_W ..  
 \* 410 \*  
 \* 411 \* HEAT\_68   =SCHEDULE THRU DEC 31 HEAT\_68\_W ..  
 \* 412 \*  
 \* 413 \* COOL\_72   =SCHEDULE THRU DEC 31 COOL\_72\_W ..  
 \* 414 \*  
 \* 415 \*  
 \* 416 \*  
 \* 417 \*           \$ ZONE DESCRIPTION  
 \* 418 \*  
 \* 419 \* GROUNDFLOR=ZONE   DESIGN-HEAT-T = 68.0 DESIGN-COOL-T = 75.0  
 \* 420 \*           HEAT-TEMP-SCH = HEAT\_68 ZONE-TYPE = CONDITIONED  
 \* 421 \*           THERMOSTAT-TYPE = PROPORTIONAL THROTTLING-RANGE = 1.0  
 \* 422 \*           BASEBOARD-CTRL = THERMOSTATIC  
 \* 423 \*           BASEBOARD-RATING = -544000. ASSIGNED-CFM = 15990.  
 \* 424 \*           OUTSIDE-AIR-CFM = 4470. SIZING-OPTION = FROM-LOADS ..  
 \* 425 \*  
 \* 426 \* SECONDFLOR=ZONE   DESIGN-HEAT-T = 68.0 DESIGN-COOL-T = 75.0  
 \* 427 \*           HEAT-TEMP-SCH = HEAT\_68 ZONE-TYPE = CONDITIONED  
 \* 428 \*           THERMOSTAT-TYPE = PROPORTIONAL THROTTLING-RANGE = 1.0  
 \* 429 \*           BASEBOARD-CTRL = THERMOSTATIC  
 \* 430 \*           BASEBOARD-RATING = -495000. ASSIGNED-CFM = 9040.  
 \* 431 \*           OUTSIDE-AIR-CFM = 1000. SIZING-OPTION = FROM-LOADS ..  
 \* 432 \*  
 \* 433 \* DISPATCH =ZONE   DESIGN-HEAT-T = 68.0 DESIGN-COOL-T = 75.0  
 \* 434 \*           HEAT-TEMP-SCH = HEAT\_68 COOL-TEMP-SCH = COOL\_72  
 \* 435 \*           ZONE-TYPE = CONDITIONED  
 \* 436 \*           THERMOSTAT-TYPE = PROPORTIONAL THROTTLING-RANGE = 1.0  
 \* 437 \*           ASSIGNED-CFM = 1250. OUTSIDE-AIR-CFM = 250.



```

* 438 *          SIZING-OPTION = FROM-LOADS ..
* 439 *
* 440 *
* 441 *          $ SYSTEM DESCRIPTION
* 442 *
* 443 * HVU1&2  =SYSTEM  SYSTEM-TYPE = HVSYS
* 444 *          MAX-SUPPLY-T = 130.0 HEATING-SCHEDULE = FULL_ON
* 445 *          MIN-HUMIDITY = 30.0 ECONO-LIMIT-T = 65.0
* 446 *          ECONO-LOW-LIMIT = 55.0 HEAT-CONTROL = COLDEST
* 447 *          SUPPLY-CFM = 15990. RETURN-CFM = 11520.
* 448 *          RATED-CFM = 15990. MIN-OUTSIDE-AIR = 0.27
* 449 *          SUPPLY-DELTA-T = 2.4 SUPPLY-KW = 0.00098
* 450 *          NIGHT-CYCLE-CTRL = STAY-OFF NIGHT-VENT-DT = 0.0
* 451 *          HEATING-CAPACITY = -489000. FURNACE-AUX = 0.
* 452 *          ZONE-NAMES = (GROUNDFLOR) ..
* 453 *
* 454 * HVU-3  =SYSTEM  SYSTEM-TYPE = HVSYS
* 455 *          MAX-SUPPLY-T = 130.0 HEATING-SCHEDULE = FULL_ON
* 456 *          MIN-HUMIDITY = 30.0 ECONO-LIMIT-T = 65.0
* 457 *          ECONO-LOW-LIMIT = 55.0 HEAT-CONTROL = COLDEST
* 458 *          SUPPLY-CFM = 9040. RETURN-CFM = 8040.
* 459 *          RATED-CFM = 9040. MIN-OUTSIDE-AIR = 0.11
* 460 *          SUPPLY-DELTA-T = 2.4 SUPPLY-KW = 0.00117
* 461 *          NIGHT-CYCLE-CTRL = STAY-OFF NIGHT-VENT-DT = 0.0
* 462 *          HEATING-CAPACITY = -207600. FURNACE-AUX = 0.
* 463 *          ZONE-NAMES = (SECONDFLOR) ..
* 464 *
* 465 * ACU-1  =SYSTEM  SYSTEM-TYPE = PSZ
* 466 *          MAX-SUPPLY-T = 130.0 MIN-SUPPLY-T = 55.0
* 467 *          HEATING-SCHEDULE = FULL_ON
* 468 *          COOLING-SCHEDULE = FULL_ON MIN-HUMIDITY = 30.0
* 469 *          ECONO-LIMIT-T = 65.0 ECONO-LOW-LIMIT = 55.0
* 470 *          OA-CONTROL = FIXED SUPPLY-CFM = 1250.
* 471 *          RETURN-CFM = 1000. RATED-CFM = 1250.
* 472 *          MIN-OUTSIDE-AIR = 0.2 SUPPLY-DELTA-T = 1.8
* 473 *          SUPPLY-KW = 0.00059 NIGHT-CYCLE-CTRL = STAY-OFF
* 474 *          NIGHT-VENT-DT = 0.0 COOLING-CAPACITY = 32200.
* 475 *          COOL-FT-MIN = 0. HEATING-CAPACITY = -22100.
* 476 *          FURNACE-AUX = 0. CRANKCASE-MAX-T = 0.
* 477 *          OUTSIDE-FAN-T = 45. HEAT-SOURCE = HOT-WATER
* 478 *          ZONE-HEAT-SOURCE = HOT-WATER
* 479 *          BASEBOARD-SOURCE = HOT-WATER
* 480 *          ZONE-NAMES = (DISPATCH) ..
* 481 *
* 482 * END ..
* 483 * COMPUTE SYSTEMS ..

```

ENERGY TYPE IN SITE MBTU-	STEAM	ELECTRICITY	RECOVERED
CATEGORY OF USE			
SPACE HEAT	2685.88	10.97	0.00
SPACE COOL	0.00	4.37	0.00
HVAC AUX	0.00	838.56	0.00
DOM HOT WTR	0.00	0.00	0.00
AUX SOLAR	0.00	0.00	0.00
LIGHTS	0.00	296.48	0.00
VERT TRANS	0.00	0.00	0.00
MISC EQUIP	0.00	63.54	0.00
	-----	-----	-----
TOTAL	2685.88	1213.91	0.00

TOTAL SITE ENERGY 3899.82 MBTU 77.1 KBTU/SQFT-YR GROSS-AREA 143.5 KBTU/SQFT-YR NET-AREA  
 TOTAL SOURCE ENERGY 8121.93 MBTU 160.5 KBTU/SQFT-YR GROSS-AREA 298.8 KBTU/SQFT-YR NET-AREA

PERCENT OF HOURS ANY SYSTEM ZONE OUTSIDE OF THROTTLING RANGE = 0.2  
 PERCENT OF HOURS ANY PLANT LOAD NOT SATISFIED = 0.0

NOTE ELECTRICITY AND/OR FUEL USED TO GENERATE ELECTRICITY IS APPORTIONED BASED  
 ON THE YEARLY DEMAND. ALL OTHER ENERGY TYPES ARE APPORTIONED HOURLY.

MO	UTILITY- STEAM	ELECTRICITY
JAN	TOTAL(MBTU)	562.193
	PEAK(KBTU)	1725.436
	DY/HR	5/12
FEB	TOTAL(MBTU)	420.688
	PEAK(KBTU)	1246.393
	DY/HR	5/ 8
MAR	TOTAL(MBTU)	412.83
	PEAK(KBTU)	1124.956
	DY/HR	26/ 8
APR	TOTAL(MBTU)	213.595
	PEAK(KBTU)	718.65
	DY/HR	1/ 8
MAY	TOTAL(MBTU)	115.878
	PEAK(KBTU)	682.818
	DY/HR	16/ 8
JUN	TOTAL(MBTU)	25.015
	PEAK(KBTU)	294.087
	DY/HR	8/ 5
JUL	TOTAL(MBTU)	11.907
	PEAK(KBTU)	221.616
	DY/HR	25/ 5
AUG	TOTAL(MBTU)	19.257
	PEAK(KBTU)	690.138
	DY/HR	6/24
SEP	TOTAL(MBTU)	59.916
	PEAK(KBTU)	415.27
	DY/HR	24/ 6
OCT	TOTAL(MBTU)	146.664
	PEAK(KBTU)	627.858
	DY/HR	28/ 8
NOV	TOTAL(MBTU)	265.891
	PEAK(KBTU)	885.865
	DY/HR	26/18

DEC	TOTAL(MBTU)	432.048	104.397
	PEAK(KBTU)	1159.839	205.277
	DY/HR	23/ 8	28/ 8
	ONE YEAR	2685.883	1213.937
	USE/PEAK	1725.436	207.271

**COMPUTER SIMULATIONS**  
**BUILDING 10715**

**RUN 1 - SCHEDULE START/STOP AND NIGHT SETBACK**

LDL PROCESSOR INPUT DATA

3/18/1995 10:47:56 LDL RUN 1

```

* 3 *
* 4 *
* 5 *
* 6 *          $-----$
* 7 *          $EZ - DOE LOADS INPUT$
* 8 *          $-----$
* 9 *
* 10 *          $ GENERAL PROJECT DATA
* 11 * TITLE LINE-1 * EMC ENGINEERS INC. *
* 12 * LINE-2 *EZDOE - ELITE SOFTWARE DEVELOPMENT INC*
* 13 * LINE-3 * DENVER, CO 80227 *
* 14 *
* 15 * LINE-4 *BUILDING 10715, POST SAFETY/LEA *
* 16 * LINE-5 *MODEL WITH SET BACK * ..
* 17 *
* 18 * ABORT ERRORS ..
* 19 * DIAGNOSTIC WARNINGS ..
* 20 * LOADS-REPORT VERIFICATION=(LV-A,LV-B,LV-C)
* 21 * SUMMARY=(LS-A,LS-B,LS-C,LS-D,LS-E,LS-F,LS-K) ..
* 22 * BUILDING-LOCATION LATITUDE = 44.0
* 23 * ALTITUDE = 655.
* 24 * AZIMUTH = -130.
* 25 * TIME-ZONE = 5
* 26 * GROSS-AREA = 50591
* 27 * HOLIDAY = NO
* 28 * SHIELDING-COEF = 0.29
* 29 * X-REF = 0.0
* 30 * Y-REF = 0.0 ..
* 31 * RUN-PERIOD JAN 1 1994 THRU DEC 31 1994 ..
* 32 *
* 33 *
* 34 *          $ SCHEDULES
* 35 *
* 36 * LIGHTS =DAY-SCHEDULE (1,2) (1.)
* 37 * (3,11) (0.5)
* 38 * (12,13) (0.6)
* 39 * (14,24) (1.) ..
* 40 *
* 41 * OCCUP =DAY-SCHEDULE (1,5) (0.)
* 42 * (6,10) (0.1,0.5,0.9,0.8,0.5)
* 43 * (11,14) (0.7,0.9,0.8,0.4)
* 44 * (15,16) (0.3)
* 45 * (17,18) (0.5,0.9)
* 46 * (19,20) (0.7,0.2)
* 47 * (21,24) (0.) ..
* 48 *
* 49 * APPLIANCE =DAY-SCHEDULE (1) (0.)
* 50 * (2,3) (0.7)
* 51 * (4,12) (0.02)
* 52 * (13,15) (0.6)
* 53 * (16,18) (0.02)
* 54 * (19,20) (0.7)
* 55 * (21,24) (0.8) ..
* 56 *
* 57 * CND_DAY =DAY-SCHEDULE (1,24) (1.) ..
* 58 *
* 59 * FULL_OFFD =DAY-SCHEDULE (1,24) (0.) ..
* 60 *
* 61 * appliance =DAY-SCHEDULE (1,5) (0.)
* 62 * (6,7) (0.4)
* 63 * (8,11) (0.6)
* 64 * (12,13) (0.8)
* 65 * (14,15) (0.5)
* 66 * (16,17) (0.8)
* 67 * (18,19) (0.6)
* 68 * (20,24) (0.) ..
* 69 *
* 70 * lights =DAY-SCHEDULE (1,5) (0.2)
* 71 * (6) (0.5)
* 72 * (7,17) (0.9)
* 73 * (18,19) (0.8,0.7)
* 74 * (20,24) (0.2) ..
* 75 *
* 76 * worship =DAY-SCHEDULE (1,6) (0.)
* 77 * (7,10) (0.2,0.7,0.8,0.5)
* 78 * (11,16) (0.2)
* 79 * (17,18) (0.1,0.3)
* 80 * (19,20) (0.5,0.2)
* 81 * (21,24) (0.) ..
* 82 *
* 83 * chapelwkdy =DAY-SCHEDULE (1,7) (0.)
* 84 * (8,18) (0.2)
* 85 * (19,20) (0.3)
* 86 * (21,24) (0.) ..
* 87 *
* 88 * PEOPLE =WEEK-SCHEDULE (ALL) OCCUP ..
* 89 *
* 90 * LIGHTS_WK =WEEK-SCHEDULE (ALL) lights ..
* 91 *
* 92 * APPLI_WK =WEEK-SCHEDULE (ALL) appliance ..
* 93 *
* 94 * CND_WK =WEEK-SCHEDULE (ALL) CND_DAY ..
* 95 *
* 96 * FULL_OFFW =WEEK-SCHEDULE (ALL) FULL_OFFD ..
* 97 *
* 98 *
* 99 * chapel =WEEK-SCHEDULE (WD) chapelwkdy
* 100 * (SAT) chapelwkdy
* 101 * (SUN) worship
* 102 * (HOL) worship ..

```

```

* 103 *
* 104 *
* 105 * $ FULL ON SCHEDULE
* 106 * FULL_ON =SCHEDULE THRU DEC 31 PEOPLE ..
* 107 *
* 108 * $ LOADS OCCUPANCY SCHED
* 109 * OCCUPANCY =SCHEDULE THRU DEC 31 PEOPLE ..
* 110 *
* 111 * $ LIGHTING SCHEDULE
* 112 * LIGHTS_ON =SCHEDULE THRU DEC 31 LIGHTS_WK ..
* 113 *
* 114 * $ APPLIANCE SCHEDULE
* 115 * APPLI_ON =SCHEDULE THRU DEC 31 APPLI_WK ..
* 116 *
* 117 * $ COND VENTIL SCHED
* 118 * CND_SCHED =SCHEDULE THRU MAR 1 FULL OFFW
* 119 * THRU NOV 30 CND_WK
* 120 * THRU DEC 31 FULL_OFFW ..
* 121 *
* 122 * $ LOADS OCCUPANCY SCHED
* 123 * Chapelschd =SCHEDULE THRU DEC 31 chapel ..
* 124 *
* 125 *
* 126 *
* 127 * $ CONSTRUCTION TYPES
* 128 *
* 129 *
* 130 *
* 131 *
* 132 * $ DOOR CONSTRUCTION
* 133 * DOORCON =CONSTRUCTION U-VALUE = 0.400 ..
* 134 * FLOOR =CONSTRUCTION U-VALUE = 0.100
* 135 * ABSORPTANCE = 1.000
* 136 * ROUGHNESS = 1 ..
* 137 * ROOFCON =CONSTRUCTION U-VALUE = 0.050 ..
* 138 * EXWALL =CONSTRUCTION U-VALUE = 0.200
* 139 * ABSORPTANCE = 0.750 ..
* 140 * INWALL =CONSTRUCTION U-VALUE = 0.500 ..
* 141 *
* 142 * GTYPE_1 =GLASS-TYPE SHADING-COEF = 0.400
* 143 * PANES = 1
* 144 * GLASS-CONDUCTANCE = 1.130 ..
* 145 * GTYPE_2 =GLASS-TYPE SHADING-COEF = 0.300
* 146 * PANES = 1
* 147 * GLASS-CONDUCTANCE = 0.790 ..
* 148 * GTYPE_3 =GLASS-TYPE SHADING-COEF = 0.400
* 149 * PANES = 1
* 150 * GLASS-CONDUCTANCE = 0.360 ..
* 151 *
* 152 *
* 153 *
* 154 *
* 155 * $ SPACE DESCRIPTION
* 156 *
* 157 * GROUNDFLOR =SPACE AREA = 14790.0 VOLUME = 133110.0
* 158 * AZIMUTH = 45 TEMPERATURE = (68.)
* 159 * ZONE-TYPE = CONDITIONED PEOPLE-SCHEDULE = FULL_ON
* 160 * NUMBER-OF-PEOPLE = 50.0 PEOPLE-HEAT-GAIN = 550.0
* 161 * LIGHTING-KW = 14.0 LIGHTING-SCHEDULE = FULL_ON
* 162 * EQUIP-SCHEDULE = FULL_ON EQUIPMENT-KW = 3.0
* 163 * INF-METHOD = AIR-CHANGE AIR-CHANGES/HR = 1.25
* 164 * INF-SCHEDULE = FULL_ON ..
* 165 *
* 166 * E-W HEIGHT = 9.0 WIDTH = 56.0 CONS = EXWALL
* 167 * AZIMUTH = 45 ..
* 168 *
* 169 * WINDOW HEIGHT = 5.0 WIDTH = 3.0 G-T = GTYPE_1
* 170 * MULTIPLIER = 5.0 ..
* 171 *
* 172 * DOOR HEIGHT = 8.0 WIDTH = 3.0 CONS = DOORCON ..
* 173 *
* 174 * E-W HEIGHT = 9.0 WIDTH = 72.0 CONS = EXWALL
* 175 * AZIMUTH = 135 ..
* 176 *
* 177 * WINDOW HEIGHT = 5.0 WIDTH = 3.0 G-T = GTYPE_1
* 178 * MULTIPLIER = 5.0 ..
* 179 *
* 180 * DOOR HEIGHT = 8.0 WIDTH = 3.0 CONS = DOORCON
* 181 * MULTIPLIER = 2.0 ..
* 182 *
* 183 * E-W HEIGHT = 9.0 WIDTH = 23.0 CONS = EXWALL
* 184 * AZIMUTH = 45 ..
* 185 *
* 186 * WINDOW HEIGHT = 5.0 WIDTH = 3.0 G-T = GTYPE_1
* 187 * MULTIPLIER = 3.0 ..
* 188 *
* 189 * E-W HEIGHT = 9.0 WIDTH = 48.0 CONS = EXWALL
* 190 * AZIMUTH = 135 ..
* 191 *
* 192 * WINDOW HEIGHT = 5.0 WIDTH = 3.0 G-T = GTYPE_1
* 193 * MULTIPLIER = 6.0 ..
* 194 *
* 195 * E-W HEIGHT = 9.0 WIDTH = 23.0 CONS = EXWALL
* 196 * AZIMUTH = 225 ..
* 197 *
* 198 * WINDOW HEIGHT = 5.0 WIDTH = 3.0 G-T = GTYPE_1
* 199 * MULTIPLIER = 3.0 ..
* 200 *
* 201 * E-W HEIGHT = 9.0 WIDTH = 18.0 CONS = EXWALL
* 202 * AZIMUTH = 135 ..
* 203 *
* 204 * E-W HEIGHT = 9.0 WIDTH = 55.0 CONS = EXWALL
* 205 * AZIMUTH = 225 ..
* 206 *
* 207 * WINDOW HEIGHT = 5.0 WIDTH = 3.0 G-T = GTYPE_1
* 208 * MULTIPLIER = 6.0 ..
* 209 *
* 210 * E-W HEIGHT = 9.0 WIDTH = 18.0 CONS = EXWALL

```

```

* 211 *           AZIMUTH = 315 ..
* 212 *
* 213 *           WINDOW HEIGHT = 5.0 WIDTH = 3.0 G-T = GTYPE_1
* 214 *           MULTIPLIER = 2.0 ..
* 215 *
* 216 *           E-W HEIGHT = 9.0 WIDTH = 133.0 CONS = EXWALL
* 217 *           AZIMUTH = 45 ..
* 218 *
* 219 *           WINDOW HEIGHT = 5.0 WIDTH = 3.0 G-T = GTYPE_1
* 220 *           MULTIPLIER = 13.0 ..
* 221 *
* 222 *           E-W HEIGHT = 9.0 WIDTH = 48.0 CONS = EXWALL
* 223 *           AZIMUTH = 315 ..
* 224 *
* 225 *           DOOR HEIGHT = 8.0 WIDTH = 3.0 CONS = DOORCON ..
* 226 *
* 227 *           E-W HEIGHT = 9.0 WIDTH = 133.0 CONS = EXWALL
* 228 *           AZIMUTH = 45 ..
* 229 *
* 230 *           DOOR HEIGHT = 8.0 WIDTH = 3.0 CONS = DOORCON
* 231 *           MULTIPLIER = 7.0 ..
* 232 *
* 233 *           U-W HEIGHT = 121.6 WIDTH = 121.6 CONS = FLOOR
* 234 *           AZIMUTH = 45 ..
* 235 *
* 236 *           I-W HEIGHT = 121.6 WIDTH = 121.6 CONS = INWALL
* 237 *           AZIMUTH = 45 NEXT-TO = SECONDFLOR ..
* 238 *
* 239 *           E-W HEIGHT = 9.0 WIDTH = 72.0 CONS = EXWALL
* 240 *           AZIMUTH = 315 ..
* 241 *
* 242 *           DOOR HEIGHT = 8.0 WIDTH = 3.0 CONS = DOORCON
* 243 *           MULTIPLIER = 2.0 ..
* 244 *
* 245 *           WINDOW HEIGHT = 5.0 WIDTH = 3.0 G-T = GTYPE_1
* 246 *           MULTIPLIER = 8.0 ..
* 247 *
* 248 *           I-W HEIGHT = 9.0 WIDTH = 10.0 CONS = INWALL
* 249 *           NEXT-TO = DISPATCH ..
* 250 *
* 251 *           I-W HEIGHT = 9.0 WIDTH = 37.0 CONS = INWALL
* 252 *           NEXT-TO = DISPATCH ..
* 253 *
* 254 *           I-W HEIGHT = 9.0 WIDTH = 10.0 CONS = INWALL
* 255 *           NEXT-TO = DISPATCH ..
* 256 *
* 257 *           I-W HEIGHT = 9.0 WIDTH = 37.0 CONS = INWALL
* 258 *           NEXT-TO = DISPATCH ..
* 259 *
* 260 * SECONDFLOR =SPACE AREA = 12020.0 VOLUME = 108180.0
* 261 *           AZIMUTH = 45 TEMPERATURE = (68.)
* 262 *           ZONE-TYPE = CONDITIONED PEOPLE-SCHEDULE = FULL_ON
* 263 *           NUMBER-OF-PEOPLE = 25.0 PEOPLE-HEAT-GAIN = 550.0
* 264 *           LIGHTING-KW = 14.0 LIGHTING-SCHEDULE = FULL_ON
* 265 *           EQUIP-SCHEDULE = FULL_ON EQUIPMENT-KW = 3.0
* 266 *           INF-METHOD = AIR-CHANGE AIR-CHANGES/HR = 1.0
* 267 *           INF-SCHEDULE = FULL_ON ..
* 268 *
* 269 *           E-W HEIGHT = 9.0 WIDTH = 56.0 CONS = EXWALL
* 270 *           AZIMUTH = 45 ..
* 271 *
* 272 *           WINDOW HEIGHT = 5.0 WIDTH = 3.0 G-T = GTYPE_1
* 273 *           MULTIPLIER = 6.0 ..
* 274 *
* 275 *           E-W HEIGHT = 9.0 WIDTH = 72.0 CONS = EXWALL
* 276 *           AZIMUTH = 135 ..
* 277 *
* 278 *           WINDOW HEIGHT = 5.0 WIDTH = 3.0 G-T = GTYPE_1
* 279 *           MULTIPLIER = 7.0 ..
* 280 *
* 281 *           E-W HEIGHT = 9.0 WIDTH = 23.0 CONS = EXWALL
* 282 *           AZIMUTH = 45 ..
* 283 *
* 284 *           WINDOW HEIGHT = 5.0 WIDTH = 3.0 G-T = GTYPE_1
* 285 *           MULTIPLIER = 3.0 ..
* 286 *
* 287 *           E-W HEIGHT = 9.0 WIDTH = 48.0 CONS = EXWALL
* 288 *           AZIMUTH = 135 ..
* 289 *
* 290 *           WINDOW HEIGHT = 5.0 WIDTH = 3.0 G-T = GTYPE_1
* 291 *           MULTIPLIER = 6.0 ..
* 292 *
* 293 *           E-W HEIGHT = 9.0 WIDTH = 23.0 CONS = EXWALL
* 294 *           AZIMUTH = 225 ..
* 295 *
* 296 *           E-W HEIGHT = 9.0 WIDTH = 18.0 CONS = EXWALL
* 297 *           AZIMUTH = 135 ..
* 298 *
* 299 *           E-W HEIGHT = 9.0 WIDTH = 55.0 CONS = EXWALL
* 300 *           AZIMUTH = 225 ..
* 301 *
* 302 *           WINDOW HEIGHT = 5.0 WIDTH = 3.0 G-T = GTYPE_1
* 303 *           MULTIPLIER = 6.0 ..
* 304 *
* 305 *           E-W HEIGHT = 9.0 WIDTH = 18.0 CONS = EXWALL
* 306 *           AZIMUTH = 315 ..
* 307 *
* 308 *           WINDOW HEIGHT = 5.0 WIDTH = 3.0 G-T = GTYPE_1
* 309 *           MULTIPLIER = 2.0 ..
* 310 *
* 311 *           E-W HEIGHT = 9.0 WIDTH = 21.0 CONS = EXWALL
* 312 *           AZIMUTH = 45 TILT = 0 ..
* 313 *
* 314 *           WINDOW HEIGHT = 5.0 WIDTH = 3.0 G-T = GTYPE_1
* 315 *           MULTIPLIER = 7.0 ..
* 316 *
* 317 *           E-W HEIGHT = 9.0 WIDTH = 48.0 CONS = EXWALL
* 318 *

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* 319 *          AZIMUTH = 315  ..
* 320 *
* 321 *      E-W      HEIGHT = 9.0  WIDTH = 21.0  CONS = EXWALL
* 322 *          AZIMUTH = 45  ..
* 323 *
* 324 *      WINDOW HEIGHT = 5.0  WIDTH = 3.0  G-T = GTYPE_1
* 325 *          MULTIPLIER = 6.0  ..
* 326 *
* 327 *      I-W      HEIGHT = 97.0  WIDTH = 97.0  CONS = INWALL
* 328 *          AZIMUTH = 45  NEXT-TO = GROUNDFLOR  ..
* 329 *
* 330 *      ROOF      HEIGHT = 97.0  WIDTH = 97.0  CONS = ROOFCON
* 331 *          AZIMUTH = 45  TILT = 0  ..
* 332 *
* 333 *      E-W      HEIGHT = 9.0  WIDTH = 72.0  CONS = EXWALL
* 334 *          AZIMUTH = 315  ..
* 335 *
* 336 *      WINDOW HEIGHT = 5.0  WIDTH = 3.0  G-T = GTYPE_1
* 337 *          MULTIPLIER = 10.0  ..
* 338 *
* 339 *
* 340 * DISPATCH  =SPACE  AREA = 370.0  VOLUME = 3400.0
* 341 *          AZIMUTH = 45  TEMPERATURE = (68.)
* 342 *          ZONE-TYPE = CONDITIONED  PEOPLE-SCHEDULE = FULL_ON
* 343 *          NUMBER-OF-PEOPLE = 5.0  PEOPLE-HEAT-GAIN = 550.0
* 344 *          LIGHTING-SCHEDULE = FULL_ON  EQUIP-SCHEDULE = FULL_ON
* 345 *          INF-METHOD = AIR-CHANGE  AIR-CHANGES/HR = 0.25
* 346 *          INF-SCHEDULE = FULL_ON  ..
* 347 *
* 348 *      I-W      HEIGHT = 9.0  WIDTH = 10.0  CONS = INWALL
* 349 *          NEXT-TO = GROUNDFLOR  ..
* 350 *
* 351 *      I-W      HEIGHT = 9.0  WIDTH = 37.0  CONS = INWALL
* 352 *          NEXT-TO = GROUNDFLOR  ..
* 353 *
* 354 *      I-W      HEIGHT = 9.0  WIDTH = 10.0  CONS = INWALL
* 355 *          NEXT-TO = GROUNDFLOR  ..
* 356 *
* 357 *      I-W      HEIGHT = 9.0  WIDTH = 37.0  CONS = INWALL
* 358 *          NEXT-TO = GROUNDFLOR  ..
* 359 *
* 360 *      I-W      HEIGHT = 10.0  WIDTH = 37.0  CONS = ROOFCON
* 361 *          NEXT-TO = SECONDFLOR  ..
* 362 *
* 363 *      U-W      HEIGHT = 10.0  WIDTH = 37.0  CONS = FLOOR ..
* 364 *
* 365 *
* 366 * END  ..
* 367 * COMPUTE LOADS  ..
* 368 *
* 369 * INPUT SYSTEMS  ..

```

SDL PROCESSOR INPUT DATA

3/18/1995 10:47:56 SDL RUN 1

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* 370 *
* 371 *
* 372 *      $-----$
* 373 *      $ E Z - D O E   S Y S T E M S   I N P U T $
* 374 *      $-----$
* 375 *
* 376 *      $ GENERAL PROJECT DATA
* 377 *
* 378 *      TITLE   LINE-1 *      EMC      ENGINEERS      INC.      *
* 379 *      LINE-2 *EZDOE - BLITE SOFTWARE DEVELOPMENT INC*
* 380 *      LINE-3 *      DENVER,      CO      80227      *
* 381 *
* 382 *      LINE-4 *BUILDING 10715, POST SAFETY/LEA      *
* 383 *      LINE-5 *MODEL WITH SET BACK      * ..
* 384 *      ABORT      ERRORS ..
* 385 *      DIAGNOSTIC  WARNINGS ..
* 386 *      SYSTEMS-REPORT VERIFICATION=(SV-A,SV-B)
* 387 *      SUMMARY=(SS-A,SS-B,SS-C,SS-D,SS-E,SS-F,SS-G,
* 388 *                SS-H,SS-I,SS-J,SS-K,SS-L,SS-M,SS-N,
* 389 *                SS-O) ..
* 390 *
* 391 *      $ SCHEDULES
* 392 *
* 393 *      D_FULL      =DAY-SCHEDULE (1,24) (1.) ..
* 394 *      D_OFF      =DAY-SCHEDULE (1,24) (0.) ..
* 395 *      HEAT_68_D  =DAY-SCHEDULE (1,24) (70.) ..
* 396 *      COOL_72_D  =DAY-SCHEDULE (1,24) (72.) ..
* 397 *      FAN_WSB_D  =DAY-SCHEDULE (1,6) (0.) ..
* 398 *                (7,17) (1.) ..
* 399 *                (18,24) (0.) ..
* 400 *      HT68_WSB_D =DAY-SCHEDULE (1,6) (50.) ..
* 401 *                (7,17) (70.) ..
* 402 *                (18,24) (50.) ..
* 403 *      HEAT_50_D =DAY-SCHEDULE (1,24) (50.) ..
* 404 *
* 405 *      W_FULL      =WEEK-SCHEDULE (ALL) D_FULL ..
* 406 *
* 407 *      FULL_OFF_W  =WEEK-SCHEDULE (ALL) D_OFF ..
* 408 *
* 409 *      HEAT_68_W  =WEEK-SCHEDULE (ALL) HEAT_68_D ..
* 410 *
* 411 *      COOL_72_W  =WEEK-SCHEDULE (ALL) COOL_72_D ..
* 412 *
* 413 *      FAN_WSB_W  =WEEK-SCHEDULE (WD) FAN_WSB_D
* 414 *                (SAT) D_OFF
* 415 *                (SUN) D_OFF
* 416 *                (HOL) FAN_WSB_D ..
* 417 *
* 418 *      HT68_WSB_W =WEEK-SCHEDULE (WD) HT68_WSB_D
* 419 *                (SAT) HEAT_50_D
* 420 *                (SUN) HEAT_50_D
* 421 *                (HOL) HT68_WSB_D ..
* 422 *
* 423 *
* 424 *      FULL_ON      =SCHEDULE THRU DEC 31 W_FULL ..
* 425 *
* 426 *      FULL_OFF     =SCHEDULE THRU DEC 31 FULL_OFF_W ..
* 427 *
* 428 *      HEAT_68      =SCHEDULE THRU DEC 31 HEAT_68_W ..
* 429 *
* 430 *      COOL_72      =SCHEDULE THRU DEC 31 COOL_72_W ..
* 431 *
* 432 *      FAN_W_SB     =SCHEDULE THRU DEC 31 FAN_WSB_W ..
* 433 *
* 434 *      $ HEAT WITH SET BACK
* 435 *      HT_68_W_SB   =SCHEDULE THRU DEC 31 HT68_WSB_W ..
* 436 *
* 437 *
* 438 *
* 439 *      $ ZONE DESCRIPTION
* 440 *
* 441 *      GROUNDFLOR =ZONE  DESIGN-HEAT-T = 68.0  DESIGN-COOL-T = 75.0
* 442 *                        HEAT-TEMP-SCH = HEAT_68  ZONE-TYPE = CONDITIONED
* 443 *                        THERMOSTAT-TYPE = PROPORTIONAL THROTTLING-RANGE = 1.0
* 444 *                        BASEBOARD-CTRL = THERMOSTATIC
* 445 *                        BASEBOARD-RATING = -544000.  ASSIGNED-CFM = 15990.
* 446 *                        OUTSIDE-AIR-CFM = 4470.  SIZING-OPTION = FROM-LOADS ..
* 447 *
* 448 *      SECONDFLOR =ZONE  DESIGN-HEAT-T = 68.0  DESIGN-COOL-T = 75.0
* 449 *                        HEAT-TEMP-SCH = HT_68_W_SB  ZONE-TYPE = CONDITIONED
* 450 *                        THERMOSTAT-TYPE = PROPORTIONAL THROTTLING-RANGE = 1.0
* 451 *                        BASEBOARD-CTRL = THERMOSTATIC
* 452 *                        BASEBOARD-RATING = -495000.  ASSIGNED-CFM = 9040.
* 453 *                        OUTSIDE-AIR-CFM = 1000.  SIZING-OPTION = FROM-LOADS ..
* 454 *
* 455 *      DISPATCH    =ZONE  DESIGN-HEAT-T = 68.0  DESIGN-COOL-T = 75.0
* 456 *                        HEAT-TEMP-SCH = HEAT_68  COOL-TEMP-SCH = COOL_72
* 457 *                        ZONE-TYPE = CONDITIONED
* 458 *                        THERMOSTAT-TYPE = PROPORTIONAL THROTTLING-RANGE = 1.0
* 459 *                        ASSIGNED-CFM = 1250.  OUTSIDE-AIR-CFM = 250.
* 460 *                        SIZING-OPTION = FROM-LOADS ..
* 461 *
* 462 *
* 463 *      $ SYSTEM DESCRIPTION
* 464 *
* 465 *      HVU1&2      =SYSTEM  SYSTEM-TYPE = HVSYS
* 466 *                        MAX-SUPPLY-T = 130.0  HEATING-SCHEDULE = FULL_ON
* 467 *                        MIN-HUMIDITY = 30.0  ECONO-LIMIT-T = 65.0
* 468 *                        ECONO-LOW-LIMIT = 55.0  HEAT-CONTROL = COLDEST
* 469 *                        SUPPLY-CFM = 15990.  RETURN-CFM = 11520.

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* 470 *      RATED-CFM = 15990.  MIN-OUTSIDE-AIR = 0.27
* 471 *      SUPPLY-DELTA-T = 2.4  SUPPLY-KW = 0.00098
* 472 *      NIGHT-CYCLE-CTRL = STAY-OFF  NIGHT-VENT-DT = 0.0
* 473 *      HEATING-CAPACITY = -489000.  FURNACE-AUX = 0.
* 474 *      ZONE-NAMES = (GROUNDFLOR)  ..
* 475 *
* 476 * HVU-3      =SYSTEM  SYSTEM-TYPE = HVSYS
* 477 *      MAX-SUPPLY-T = 130.0  HEATING-SCHEDULE = FULL_ON
* 478 *      MIN-HUMIDITY = 30.0  ECONO-LIMIT-T = 65.0
* 479 *      ECONO-LOW-LIMIT = 55.0  HEAT-CONTROL = COLDEST
* 480 *      SUPPLY-CFM = 9040.  RETURN-CFM = 8040.
* 481 *      RATED-CFM = 9040.  MIN-OUTSIDE-AIR = 0.11
* 482 *      FAN-SCHEDULE = FAN_W_SB  SUPPLY-DELTA-T = 2.4
* 483 *      SUPPLY-KW = 0.00117  NIGHT-CYCLE-CTRL = CYCLE-ON-ANY
* 484 *      NIGHT-VENT-DT = 0.0  HEATING-CAPACITY = -207600.
* 485 *      FURNACE-AUX = 0.
* 486 *      ZONE-NAMES = (SECONDFLOR)  ..
* 487 *
* 488 * ACU-1      =SYSTEM  SYSTEM-TYPE = PSZ
* 489 *      MAX-SUPPLY-T = 130.0  MIN-SUPPLY-T = 55.0
* 490 *      HEATING-SCHEDULE = FULL_ON
* 491 *      COOLING-SCHEDULE = FULL_ON  MIN-HUMIDITY = 30.0
* 492 *      ECONO-LIMIT-T = 65.0  ECONO-LOW-LIMIT = 55.0
* 493 *      OA-CONTROL = FIXED  SUPPLY-CFM = 1250.
* 494 *      RETURN-CFM = 1000.  RATED-CFM = 1250.
* 495 *      MIN-OUTSIDE-AIR = 0.2  SUPPLY-DELTA-T = 1.8
* 496 *      SUPPLY-KW = 0.00059  NIGHT-CYCLE-CTRL = STAY-OFF
* 497 *      NIGHT-VENT-DT = 0.0  COOLING-CAPACITY = 32200.
* 498 *      COOL-PT-MIN = 0.  HEATING-CAPACITY = -22100.
* 499 *      FURNACE-AUX = 0.  CRANKCASE-MAX-T = 0.
* 500 *      OUTSIDE-FAN-T = 45.  HEAT-SOURCE = HOT-WATER
* 501 *      ZONE-HEAT-SOURCE = HOT-WATER
* 502 *      BASEBOARD-SOURCE = HOT-WATER
* 503 *      ZONE-NAMES = (DISPATCH)  ..
* 504 *
* 505 * END  ..
* 506 * COMPUTE SYSTEMS  ..
* 507 *
* 508 * INPUT PLANT  ..

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PDL PROCESSOR INPUT DATA

3/18/1995 10:47:56 PDL RUN 1

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\$-----\$  
\$EZDOE PLANTS INPUT\$  
\$-----\$

\$ GENERAL PROJECT DATA

TITLE LINE-1 \* EMC ENGINEERS INC. \*  
LINE-2 \*EZDOE - ELITE SOFTWARE DEVELOPMENT INC\*  
LINE-3 \* DENVER, CO 80227 \*  
LINE-4 \*BUILDING 10715, POST SAFETY/LEA \*  
LINE-5 \*MODEL WITH SET BACK \* ..

ABORT ERRORS ..  
DIAGNOSTIC WARNINGS ..  
PLANT-REPORT VERIFICATION=(PV-A)  
SUMMARY=(PS-A,PS-B,PS-D,PS-H,PS-I,BEPS) ..

\$ SCHEDULES

DAY\_ON =DAY-SCHEDULE (1,7) (0.)  
(8,18) (1.)  
(19,24) (0.) ..

FULL\_ON =WEEK-SCHEDULE (ALL) DAY\_ON ..

\$ heating plant schedule  
heating =SCHEDULE THRU DEC 31 FULL\_ON ..

\$ EQUIPMENT DESCRIPTION

HX-1&2SPH =PLANT-EQUIPMENT TYPE = HTANK-STORAGE  
SIZE = -1.8 ..  
DHW =PLANT-EQUIPMENT TYPE = HTANK-STORAGE  
SIZE = -0.1 ..

PLANT-PARAMETERS MAKEUP-WTR-T = 50. STM-BOILER-HIR = 0.76  
HW-BOILER-HIR = 1.27 CHILLER-CONTROL = STANDBY  
OPEN-REC-COND-TYPE = AIR HERM-REC-COND-TYPE = AIR  
COMP-TO-TWR-WTR = 2.77 CCIRC-HEAD = 100.0  
HCIRC-HEAD = 40.0 ..

PART-LOAD-RATIO TYPE = HW-BOILER  
MIN-RATIO = 0.2500 MAX-RATIO = 1.0000  
OPERATING-RATIO = 1.0000 ELBC-INPUT-RATIO = 0.0220 ..

ENERGY-RESOURCE RESOURCE = STEAM ..  
ENERGY-RESOURCE RESOURCE = ELECTRICITY ..  
ENERGY-RESOURCE RESOURCE = STEAM ..

ENERGY-STORAGE HEAT-STORE-RATE = 2.75 HEAT-SUPPLY-RATE = 2.75  
HTANK-BASE-T = 210.0 HTANK-T-RANGE = 15.6  
HEAT-STORE-SCH = heating ..

HEAT-RECOVERY  
SUPPLY-1 = (HTANK-STORAGE,HTANK-STORAGE)  
DEMAND-1 = (PROCESS-HEAT,SPACE-HEAT) ..

END ..  
COMPUTE PLANT ..  
STOP ..

ENERGY TYPE IN SITE MBTU-	STEAM	ELECTRICITY	RECOVERED
CATEGORY OF USE			
SPACE HEAT	2,512.57	10.97	0.00
SPACE COOL	0.00	4.39	0.00
HVAC AUX	0.00	626.29	0.00
DOM HOT WTR	0.00	0.00	0.00
AUX SOLAR	0.00	0.00	0.00
LIGHTS	0.00	296.49	0.00
VERT TRANS	0.00	0.00	0.00
MISC EQUIP	0.00	63.54	0.00
	-----	-----	-----
TOTAL	2,512.57	1,001.67	0.00

TOTAL SITE ENERGY 3514.26 MBTU 69.5 KBTU/SQFT-YR GROSS-AREA 129.3 KBTU/SQFT-YR NET-AREA  
 TOTAL SOURCE ENERGY 7195.68 MBTU 142.2 KBTU/SQFT-YR GROSS-AREA 264.7 KBTU/SQFT-YR NET-AREA

PERCENT OF HOURS ANY SYSTEM ZONE OUTSIDE OF THROTTLING RANGE = 0.1  
 PERCENT OF HOURS ANY PLANT LOAD NOT SATISFIED = 0.0

NOTE ELECTRICITY AND/OR FUEL USED TO GENERATE ELECTRICITY IS APPORTIONED BASED  
 ON THE YEARLY DEMAND. ALL OTHER ENERGY TYPES ARE APPORTIONED HOURLY.

MO	UTILITY-	STEAM	ELECTRICITY
	TOTAL (MBTU)	524.011	86.519
JAN	PEAK (KBTU)	1777.560	206.166
	DY/HR	5/12	5/12
	TOTAL (MBTU)	392.695	78.186
FEB	PEAK (KBTU)	1279.394	204.981
	DY/HR	4/ 9	4/12
	TOTAL (MBTU)	388.428	86.531
MAR	PEAK (KBTU)	1160.254	205.595
	DY/HR	9/ 7	9/ 8
	TOTAL (MBTU)	202.627	82.100
APR	PEAK (KBTU)	809.682	203.645
	DY/HR	1/ 7	1/ 8
	TOTAL (MBTU)	108.806	84.210
MAY	PEAK (KBTU)	728.332	203.116
	DY/HR	16/ 8	16/ 8
	TOTAL (MBTU)	21.674	81.259
JUN	PEAK (KBTU)	248.154	201.773
	DY/HR	8/ 5	17/12
	TOTAL (MBTU)	9.603	83.946
JUL	PEAK (KBTU)	176.968	205.921
	DY/HR	25/ 5	18/12
	TOTAL (MBTU)	16.261	84.105
AUG	PEAK (KBTU)	438.726	201.883
	DY/HR	6/24	18/12
	TOTAL (MBTU)	55.889	81.762
SEP	PEAK (KBTU)	414.665	204.262
	DY/HR	23/ 7	2/12
	TOTAL (MBTU)	139.124	84.088
OCT	PEAK (KBTU)	673.827	203.539
	DY/HR	28/ 8	26/12
	TOTAL (MBTU)	251.102	82.611
NOV	PEAK (KBTU)	930.047	204.059
	DY/HR	28/ 7	29/ 8
	TOTAL (MBTU)	402.358	86.363
DEC	PEAK (KBTU)	1238.417	205.403
	DY/HR	23/ 8	28/ 8
	ONE YEAR	2512.578	1001.680
	USE/PEAK	1777.560	206.166

**COMPUTER SIMULATIONS**  
**BUILDING 10715**

**RUN 2 - ECONOMIZER**

LDL PROCESSOR INPUT DATA

3/18/1995 10:50:47 LDL RUN 1

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* 3 *
* 4 *
* 5 *
* 6 * $-----$
* 7 * $EZ - DOE LOADS INPUT $
* 8 * $-----$
* 9 *
* 10 * $ GENERAL PROJECT DATA
* 11 * TITLE LINE-1 * EMC ENGINEERS INC. *
* 12 * LINE-2 *EZDOE - ELITE SOFTWARE DEVELOPMENT INC*
* 13 * LINE-3 * DENVER, CO 80227 *
* 14 *
* 15 * LINE-4 *BUILDING 10715, POST SAFETY/LEA *
* 16 * LINE-5 *MODEL WITH SET BACK & ECONOMIZER * ..
* 17 *
* 18 * ABORT ERRORS ..
* 19 * DIAGNOSTIC WARNINGS ..
* 20 * LOADS-REPORT VERIFICATION=(LV-A,LV-B,LV-C)
* 21 * SUMMARY=(LS-A,LS-B,LS-C,LS-D,LS-E,LS-F,LS-K) ..
* 22 * BUILDING-LOCATION LATITUDE = 44.0
* 23 * ALTITUDE = 655.
* 24 * AZIMUTH = -130.
* 25 * TIME-ZONE = 5
* 26 * GROSS-AREA = 50591
* 27 * HOLIDAY = NO
* 28 * SHIELDING-COEF = 0.29
* 29 * X-REF = 0.0
* 30 * Y-REF = 0.0 ..
* 31 * RUN-PERIOD JAN 1 1994 THRU DEC 31 1994 ..
* 32 *
* 33 *
* 34 * $ SCHEDULES
* 35 *
* 36 * LIGHTS =DAY-SCHEDULE (1,2) (1.)
* 37 * (3,11) (0.5)
* 38 * (12,13) (0.6)
* 39 * (14,24) (1.) ..
* 40 *
* 41 * OCCUP =DAY-SCHEDULE (1,5) (0.)
* 42 * (6,10) (0.1,0.5,0.9,0.8,0.5)
* 43 * (11,14) (0.7,0.9,0.8,0.4)
* 44 * (15,16) (0.3)
* 45 * (17,18) (0.5,0.9)
* 46 * (19,20) (0.7,0.2)
* 47 * (21,24) (0.) ..
* 48 *
* 49 * APPLIANCE =DAY-SCHEDULE (1) (0.)
* 50 * (2,3) (0.7)
* 51 * (4,12) (0.02)
* 52 * (13,15) (0.6)
* 53 * (16,18) (0.02)
* 54 * (19,20) (0.7)
* 55 * (21,24) (0.8) ..
* 56 *
* 57 * CND_DAY =DAY-SCHEDULE (1,24) (1.) ..
* 58 *
* 59 * FULL_OFFD =DAY-SCHEDULE (1,24) (0.) ..
* 60 *
* 61 * appliance =DAY-SCHEDULE (1,5) (0.)
* 62 * (6,7) (0.4)
* 63 * (8,11) (0.6)
* 64 * (12,13) (0.8)
* 65 * (14,15) (0.5)
* 66 * (16,17) (0.8)
* 67 * (18,19) (0.6)
* 68 * (20,24) (0.) ..
* 69 *
* 70 * lights =DAY-SCHEDULE (1,5) (0.2)
* 71 * (6) (0.5)
* 72 * (7,17) (0.9)
* 73 * (18,19) (0.8,0.7)
* 74 * (20,24) (0.2) ..
* 75 *
* 76 * worship =DAY-SCHEDULE (1,6) (0.)
* 77 * (7,10) (0.2,0.7,0.8,0.5)
* 78 * (11,16) (0.2)
* 79 * (17,18) (0.1,0.3)
* 80 * (19,20) (0.5,0.2)
* 81 * (21,24) (0.) ..
* 82 *
* 83 * chapelwkdy =DAY-SCHEDULE (1,7) (0.)
* 84 * (8,18) (0.2)
* 85 * (19,20) (0.3)
* 86 * (21,24) (0.) ..
* 87 *
* 88 *
* 89 * PEOPLE =WEEK-SCHEDULE (ALL) OCCUP ..
* 90 *
* 91 * LIGHTS_WK =WEEK-SCHEDULE (ALL) lights ..
* 92 *
* 93 * APPLI_WK =WEEK-SCHEDULE (ALL) appliance ..
* 94 *
* 95 * CND_WK =WEEK-SCHEDULE (ALL) CND_DAY ..
* 96 *
* 97 * FULL_OFFW =WEEK-SCHEDULE (ALL) FULL_OFFD ..
* 98 *
* 99 * chapel =WEEK-SCHEDULE (WD) chapelwkdy
* 100 * (SAT) chapelwkdy
* 101 * (SUN) worship
* 102 * (HOL) worship ..

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```

* 103 *
* 104 *
* 105 * $ FULL_ON SCHEDULE
* 106 * FULL_ON =SCHEDULE THRU DEC 31 PEOPLE ..
* 107 *
* 108 * $ LOADS OCCUPANCY SCHED
* 109 * OCCUPANCY =SCHEDULE THRU DEC 31 PEOPLE ..
* 110 *
* 111 * $ LIGHTING SCHEDULE
* 112 * LIGHTS_ON =SCHEDULE THRU DEC 31 LIGHTS_WK ..
* 113 *
* 114 * $ APPLIANCE SCHEDULE
* 115 * APPLI_ON =SCHEDULE THRU DEC 31 APPLI_WK ..
* 116 *
* 117 * $ COND VENTIL SCHED
* 118 * CND_SCHED =SCHEDULE THRU MAR 1 FULL_OFFW
* 119 * THRU NOV 30 CND_WK
* 120 * THRU DEC 31 FULL_OFFW ..
* 121 *
* 122 * $ LOADS OCCUPANCY SCHED
* 123 * Chapelschd =SCHEDULE THRU DEC 31 chapel ..
* 124 *
* 125 *
* 126 *
* 127 * $ CONSTRUCTION TYPES
* 128 *
* 129 *
* 130 *
* 131 *
* 132 * $ DOOR CONSTRUCTION
* 133 * DOORCON =CONSTRUCTION U-VALUE = 0.400 ..
* 134 * FLOOR =CONSTRUCTION U-VALUE = 0.100 ..
* 135 * ABSORPTANCE = 1.000
* 136 * ROUGHNESS = 1 ..
* 137 * ROOFCON =CONSTRUCTION U-VALUE = 0.050 ..
* 138 * EXWALL =CONSTRUCTION U-VALUE = 0.200
* 139 * ABSORPTANCE = 0.750 ..
* 140 * INWALL =CONSTRUCTION U-VALUE = 0.500 ..
* 141 *
* 142 * GTYPE_1 =GLASS-TYPE SHADING-COEF = 0.400
* 143 * PANES = 1
* 144 * GLASS-CONDUCTANCE = 1.130 ..
* 145 * GTYPE_2 =GLASS-TYPE SHADING-COEF = 0.300
* 146 * PANES = 1
* 147 * GLASS-CONDUCTANCE = 0.790 ..
* 148 * GTYPE_3 =GLASS-TYPE SHADING-COEF = 0.400
* 149 * PANES = 1
* 150 * GLASS-CONDUCTANCE = 0.360 ..
* 151 *
* 152 *
* 153 *
* 154 *
* 155 * $ SPACE DESCRIPTION
* 156 *
* 157 * GROUNDFLOR =SPACE AREA = 14790.0 VOLUME = 133110.0
* 158 * AZIMUTH = 45 TEMPERATURE = (68.)
* 159 * ZONE-TYPE = CONDITIONED PEOPLE-SCHEDULE = FULL_ON
* 160 * NUMBER-OF-PEOPLE = 50.0 PEOPLE-HEAT-GAIN = 550.0
* 161 * LIGHTING-KW = 14.0 LIGHTING-SCHEDULE = FULL_ON
* 162 * EQUIP-SCHEDULE = FULL_ON EQUIPMENT-KW = 3.0
* 163 * INF-METHOD = AIR-CHANGE AIR-CHANGES/HR = 1.25
* 164 * INF-SCHEDULE = FULL_ON ..
* 165 *
* 166 * E-W HEIGHT = 9.0 WIDTH = 56.0 CONS = EXWALL
* 167 * AZIMUTH = 45 ..
* 168 *
* 169 * WINDOW HEIGHT = 5.0 WIDTH = 3.0 G-T = GTYPE_1
* 170 * MULTIPLIER = 5.0 ..
* 171 *
* 172 * DOOR HEIGHT = 8.0 WIDTH = 3.0 CONS = DOORCON ..
* 173 *
* 174 * E-W HEIGHT = 9.0 WIDTH = 72.0 CONS = EXWALL
* 175 * AZIMUTH = 135 ..
* 176 *
* 177 * WINDOW HEIGHT = 5.0 WIDTH = 3.0 G-T = GTYPE_1
* 178 * MULTIPLIER = 5.0 ..
* 179 *
* 180 * DOOR HEIGHT = 8.0 WIDTH = 3.0 CONS = DOORCON
* 181 * MULTIPLIER = 2.0 ..
* 182 *
* 183 * E-W HEIGHT = 9.0 WIDTH = 23.0 CONS = EXWALL
* 184 * AZIMUTH = 45 ..
* 185 *
* 186 * WINDOW HEIGHT = 5.0 WIDTH = 3.0 G-T = GTYPE_1
* 187 * MULTIPLIER = 3.0 ..
* 188 *
* 189 * E-W HEIGHT = 9.0 WIDTH = 48.0 CONS = EXWALL
* 190 * AZIMUTH = 135 ..
* 191 *
* 192 * WINDOW HEIGHT = 5.0 WIDTH = 3.0 G-T = GTYPE_1
* 193 * MULTIPLIER = 6.0 ..
* 194 *
* 195 * E-W HEIGHT = 9.0 WIDTH = 23.0 CONS = EXWALL
* 196 * AZIMUTH = 225 ..
* 197 *
* 198 * WINDOW HEIGHT = 5.0 WIDTH = 3.0 G-T = GTYPE_1
* 199 * MULTIPLIER = 3.0 ..
* 200 *
* 201 * E-W HEIGHT = 9.0 WIDTH = 18.0 CONS = EXWALL
* 202 * AZIMUTH = 135 ..
* 203 *
* 204 * E-W HEIGHT = 9.0 WIDTH = 55.0 CONS = EXWALL
* 205 * AZIMUTH = 225 ..
* 206 *
* 207 * WINDOW HEIGHT = 5.0 WIDTH = 3.0 G-T = GTYPE_1
* 208 * MULTIPLIER = 6.0 ..
* 209 *
* 210 * E-W HEIGHT = 9.0 WIDTH = 18.0 CONS = EXWALL

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* 211 *           AZIMUTH = 315  ..
* 212 *
* 213 *           WINDOW HEIGHT = 5.0  WIDTH = 3.0  G-T = GTYPE_1
* 214 *           MULTIPLIER = 2.0  ..
* 215 *
* 216 *           E-W    HEIGHT = 9.0  WIDTH = 133.0  CONS = EXWALL
* 217 *           AZIMUTH = 45  ..
* 218 *
* 219 *           WINDOW HEIGHT = 5.0  WIDTH = 3.0  G-T = GTYPE_1
* 220 *           MULTIPLIER = 13.0  ..
* 221 *
* 222 *           E-W    HEIGHT = 9.0  WIDTH = 48.0  CONS = EXWALL
* 223 *           AZIMUTH = 315  ..
* 224 *
* 225 *           DOOR   HEIGHT = 8.0  WIDTH = 3.0  CONS = DOORCON ..
* 226 *
* 227 *           E-W    HEIGHT = 9.0  WIDTH = 133.0  CONS = EXWALL
* 228 *           AZIMUTH = 45  ..
* 229 *
* 230 *           DOOR   HEIGHT = 8.0  WIDTH = 3.0  CONS = DOORCON
* 231 *           MULTIPLIER = 7.0  ..
* 232 *
* 233 *           U-W    HEIGHT = 121.6  WIDTH = 121.6  CONS = FLOOR
* 234 *           AZIMUTH = 45  ..
* 235 *
* 236 *           I-W    HEIGHT = 121.6  WIDTH = 121.6  CONS = INWALL
* 237 *           AZIMUTH = 45  NEXT-TO = SECONDFLOR  ..
* 238 *
* 239 *           E-W    HEIGHT = 9.0  WIDTH = 72.0  CONS = EXWALL
* 240 *           AZIMUTH = 315  ..
* 241 *
* 242 *           DOOR   HEIGHT = 8.0  WIDTH = 3.0  CONS = DOORCON
* 243 *           MULTIPLIER = 2.0  ..
* 244 *
* 245 *           WINDOW HEIGHT = 5.0  WIDTH = 3.0  G-T = GTYPE_1
* 246 *           MULTIPLIER = 8.0  ..
* 247 *
* 248 *           I-W    HEIGHT = 9.0  WIDTH = 10.0  CONS = INWALL
* 249 *           NEXT-TO = DISPATCH  ..
* 250 *
* 251 *           I-W    HEIGHT = 9.0  WIDTH = 37.0  CONS = INWALL
* 252 *           NEXT-TO = DISPATCH  ..
* 253 *
* 254 *           I-W    HEIGHT = 9.0  WIDTH = 10.0  CONS = INWALL
* 255 *           NEXT-TO = DISPATCH  ..
* 256 *
* 257 *           I-W    HEIGHT = 9.0  WIDTH = 37.0  CONS = INWALL
* 258 *           NEXT-TO = DISPATCH  ..
* 259 *
* 260 *
* 261 * SECONDFLOR =SPACE  AREA = 12020.0  VOLUME = 108180.0
* 262 *           AZIMUTH = 45  TEMPERATURE = (68.)
* 263 *           ZONE-TYPE = CONDITIONED  PEOPLE-SCHEDULE = FULL_ON
* 264 *           NUMBER-OF-PEOPLE = 25.0  PEOPLE-HEAT-GAIN = 550.0
* 265 *           LIGHTING-KW = 14.0  LIGHTING-SCHEDULE = FULL_ON
* 266 *           EQUIP-SCHEDULE = FULL_ON  EQUIPMENT-KW = 3.0
* 267 *           INF-METHOD = AIR-CHANGE  AIR-CHANGES/HR = 1.0
* 268 *           INF-SCHEDULE = FULL_ON  ..
* 269 *
* 270 *           E-W    HEIGHT = 9.0  WIDTH = 56.0  CONS = EXWALL
* 271 *           AZIMUTH = 45  ..
* 272 *
* 273 *           WINDOW HEIGHT = 5.0  WIDTH = 3.0  G-T = GTYPE_1
* 274 *           MULTIPLIER = 6.0  ..
* 275 *
* 276 *           E-W    HEIGHT = 9.0  WIDTH = 72.0  CONS = EXWALL
* 277 *           AZIMUTH = 135  ..
* 278 *
* 279 *           WINDOW HEIGHT = 5.0  WIDTH = 3.0  G-T = GTYPE_1
* 280 *           MULTIPLIER = 7.0  ..
* 281 *
* 282 *           E-W    HEIGHT = 9.0  WIDTH = 23.0  CONS = EXWALL
* 283 *           AZIMUTH = 45  ..
* 284 *
* 285 *           WINDOW HEIGHT = 5.0  WIDTH = 3.0  G-T = GTYPE_1
* 286 *           MULTIPLIER = 3.0  ..
* 287 *
* 288 *           E-W    HEIGHT = 9.0  WIDTH = 48.0  CONS = EXWALL
* 289 *           AZIMUTH = 135  ..
* 290 *
* 291 *           WINDOW HEIGHT = 5.0  WIDTH = 3.0  G-T = GTYPE_1
* 292 *           MULTIPLIER = 6.0  ..
* 293 *
* 294 *           E-W    HEIGHT = 9.0  WIDTH = 23.0  CONS = EXWALL
* 295 *           AZIMUTH = 225  ..
* 296 *
* 297 *           E-W    HEIGHT = 9.0  WIDTH = 18.0  CONS = EXWALL
* 298 *           AZIMUTH = 135  ..
* 299 *
* 300 *           E-W    HEIGHT = 9.0  WIDTH = 55.0  CONS = EXWALL
* 301 *           AZIMUTH = 225  ..
* 302 *
* 303 *           WINDOW HEIGHT = 5.0  WIDTH = 3.0  G-T = GTYPE_1
* 304 *           MULTIPLIER = 6.0  ..
* 305 *
* 306 *           E-W    HEIGHT = 9.0  WIDTH = 18.0  CONS = EXWALL
* 307 *           AZIMUTH = 315  ..
* 308 *
* 309 *           WINDOW HEIGHT = 5.0  WIDTH = 3.0  G-T = GTYPE_1
* 310 *           MULTIPLIER = 2.0  ..
* 311 *
* 312 *           E-W    HEIGHT = 9.0  WIDTH = 21.0  CONS = EXWALL
* 313 *           AZIMUTH = 45  TILT = 0  ..
* 314 *
* 315 *           WINDOW HEIGHT = 5.0  WIDTH = 3.0  G-T = GTYPE_1
* 316 *           MULTIPLIER = 7.0  ..
* 317 *
* 318 *           E-W    HEIGHT = 9.0  WIDTH = 48.0  CONS = EXWALL

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* 319 *          AZIMUTH = 315  ..
* 320 *
* 321 *      E-W      HEIGHT = 9.0  WIDTH = 21.0  CONS = EXWALL
* 322 *          AZIMUTH = 45  ..
* 323 *
* 324 *      WINDOW HEIGHT = 5.0  WIDTH = 3.0  G-T = GTYPE_1
* 325 *          MULTIPLIER = 6.0  ..
* 326 *
* 327 *      I-W      HEIGHT = 97.0  WIDTH = 97.0  CONS = INWALL
* 328 *          AZIMUTH = 45  NEXT-TO = GROUNDFLOR  ..
* 329 *
* 330 *      ROOF      HEIGHT = 97.0  WIDTH = 97.0  CONS = ROOFCON
* 331 *          AZIMUTH = 45  TILT = 0  ..
* 332 *
* 333 *      E-W      HEIGHT = 9.0  WIDTH = 72.0  CONS = EXWALL
* 334 *          AZIMUTH = 315  ..
* 335 *
* 336 *      WINDOW HEIGHT = 5.0  WIDTH = 3.0  G-T = GTYPE_1
* 337 *          MULTIPLIER = 10.0  ..
* 338 *
* 339 *
* 340 *  DISPATCH  =SPACE  AREA = 370.0  VOLUME = 3400.0
* 341 *          AZIMUTH = 45  TEMPERATURE = (68.)
* 342 *          ZONE-TYPE = CONDITIONED  PEOPLE-SCHEDULE = FULL_ON
* 343 *          NUMBER-OF-PEOPLE = 5.0  PEOPLE-HEAT-GAIN = 550.0
* 344 *          LIGHTING-SCHEDULE = FULL_ON  EQUIP-SCHEDULE = FULL_ON
* 345 *          INF-METHOD = AIR-CHANGE  AIR-CHANGES/HR = 0.25
* 346 *          INF-SCHEDULE = FULL_ON  ..
* 347 *
* 348 *      I-W      HEIGHT = 9.0  WIDTH = 10.0  CONS = INWALL
* 349 *          NEXT-TO = GROUNDFLOR  ..
* 350 *
* 351 *      I-W      HEIGHT = 9.0  WIDTH = 37.0  CONS = INWALL
* 352 *          NEXT-TO = GROUNDFLOR  ..
* 353 *
* 354 *      I-W      HEIGHT = 9.0  WIDTH = 10.0  CONS = INWALL
* 355 *          NEXT-TO = GROUNDFLOR  ..
* 356 *
* 357 *      I-W      HEIGHT = 9.0  WIDTH = 37.0  CONS = INWALL
* 358 *          NEXT-TO = GROUNDFLOR  ..
* 359 *
* 360 *      I-W      HEIGHT = 10.0  WIDTH = 37.0  CONS = ROOFCON
* 361 *          NEXT-TO = SECONDFLOR  ..
* 362 *
* 363 *      U-W      HEIGHT = 10.0  WIDTH = 37.0  CONS = FLOOR ..
* 364 *
* 365 *
* 366 *  END  ..
* 367 *  COMPUTE LOADS  ..
* 368 *
* 369 *  INPUT SYSTEMS  ..

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SDL PROCESSOR INPUT DATA

3/18/1995 10:50:47 SDL RUN 1

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* 370 *
* 371 *
* 372 *          $-----$
* 373 *          $EZ - DOE SYSTEMS INPUT $
* 374 *          $-----$
* 375 *
* 376 *          $ GENERAL PROJECT DATA
* 377 *
* 378 * TITLE LINE-1 * EMC ENGINEERS INC. *
* 379 * LINE-2 *EZDOE - ELITE SOFTWARE DEVELOPMENT INC*
* 380 * LINE-3 * DENVER, CO 80227 *
* 381 *
* 382 * LINE-4 *BUILDING 10715, POST SAFETY/LEA *
* 383 * LINE-5 *MODEL WITH SET BACK & ECONOMIZER * ..
* 384 * ABORT ERRORS ..
* 385 * DIAGNOSTIC WARNINGS ..
* 386 * SYSTEMS-REPORT VERIFICATION=(SV-A,SV-B)
* 387 * SUMMARY=(SS-A,SS-B,SS-C,SS-D,SS-E,SS-F,SS-G,
* 388 * SS-H,SS-I,SS-J,SS-K,SS-L,SS-M,SS-N,
* 389 * SS-O) ..
* 390 *
* 391 *          $ SCHEDULES
* 392 *
* 393 * D_FULL =DAY-SCHEDULE (1,24) (1.) ..
* 394 * D_OFF =DAY-SCHEDULE (1,24) (0.) ..
* 395 * HEAT_68_D =DAY-SCHEDULE (1,24) (70.) ..
* 396 * COOL_72_D =DAY-SCHEDULE (1,24) (72.) ..
* 397 * FAN_WSB_D =DAY-SCHEDULE (1,6) (0.) ..
* 398 * (7,17) (1.)
* 399 * (18,24) (0.) ..
* 400 * HT68_WSB_D =DAY-SCHEDULE (1,6) (50.)
* 401 * (7,17) (70.)
* 402 * (18,24) (50.) ..
* 403 * HEAT_50_D =DAY-SCHEDULE (1,24) (50.) ..
* 404 *
* 405 * W_FULL =WEEK-SCHEDULE (ALL) D_FULL ..
* 406 *
* 407 * FULL_OFF_W =WEEK-SCHEDULE (ALL) D_OFF ..
* 408 *
* 409 * HEAT_68_W =WEEK-SCHEDULE (ALL) HEAT_68_D ..
* 410 *
* 411 * COOL_72_W =WEEK-SCHEDULE (ALL) COOL_72_D ..
* 412 *
* 413 * FAN_WSB_W =WEEK-SCHEDULE (WD) FAN_WSB_D
* 414 * (SAT) D_OFF
* 415 * (SUN) D_OFF
* 416 * (HOL) FAN_WSB_D ..
* 417 *
* 418 * HT68_WSB_W =WEEK-SCHEDULE (WD) HT68_WSB_D
* 419 * (SAT) HEAT_50_D
* 420 * (SUN) HEAT_50_D
* 421 * (HOL) HT68_WSB_D ..
* 422 *
* 423 *
* 424 * FULL_ON =SCHEDULE THRU DEC 31 W_FULL ..
* 425 *
* 426 * FULL_OFF =SCHEDULE THRU DEC 31 FULL_OFF_W ..
* 427 *
* 428 * HEAT_68 =SCHEDULE THRU DEC 31 HEAT_68_W ..
* 429 *
* 430 * COOL_72 =SCHEDULE THRU DEC 31 COOL_72_W ..
* 431 *
* 432 * FAN_WSB =SCHEDULE THRU DEC 31 FAN_WSB_W ..
* 433 *
* 434 * $ HEAT WITH SET BACK
* 435 * HT_68_W_SB =SCHEDULE THRU DEC 31 HT68_WSB_W ..
* 436 *
* 437 *
* 438 *          $ ZONE DESCRIPTION
* 439 *
* 440 *
* 441 * GROUNDFLOR =ZONE DESIGN-HEAT-T = 68.0 DESIGN-COOL-T = 75.0
* 442 * HEAT-TEMP-SCH = HEAT_68 ZONE-TYPE = CONDITIONED
* 443 * THERMOSTAT-TYPE = PROPORTIONAL THROTTLING-RANGE = 1.0
* 444 * BASEBOARD-CTRL = THERMOSTATIC
* 445 * BASEBOARD-RATING = -544000. ASSIGNED-CFM = 15990.
* 446 * OUTSIDE-AIR-CFM = 4470. SIZING-OPTION = FROM-LOADS ..
* 447 *
* 448 * SECONDFLOR =ZONE DESIGN-HEAT-T = 68.0 DESIGN-COOL-T = 75.0
* 449 * HEAT-TEMP-SCH = HT_68_W_SB ZONE-TYPE = CONDITIONED
* 450 * THERMOSTAT-TYPE = PROPORTIONAL THROTTLING-RANGE = 1.0
* 451 * BASEBOARD-CTRL = THERMOSTATIC
* 452 * BASEBOARD-RATING = -495000. ASSIGNED-CFM = 9040.
* 453 * OUTSIDE-AIR-CFM = 1000. SIZING-OPTION = FROM-LOADS ..
* 454 *
* 455 * DISPATCH =ZONE DESIGN-HEAT-T = 68.0 DESIGN-COOL-T = 75.0
* 456 * HEAT-TEMP-SCH = HEAT_68 COOL-TEMP-SCH = COOL_72
* 457 * ZONE-TYPE = CONDITIONED
* 458 * THERMOSTAT-TYPE = PROPORTIONAL THROTTLING-RANGE = 1.0
* 459 * ASSIGNED-CFM = 1250. OUTSIDE-AIR-CFM = 250.
* 460 * SIZING-OPTION = FROM-LOADS ..
* 461 *
* 462 *
* 463 *          $ SYSTEM DESCRIPTION
* 464 *
* 465 * HVU1&2 =SYSTEM SYSTEM-TYPE = HVSYS
* 466 * MAX-SUPPLY-T = 130.0 HEATING-SCHEDULE = FULL_ON
* 467 * MIN-HUMIDITY = 30.0 ECONO-LIMIT-T = 65.0
* 468 * ECONO-LOW-LIMIT = 55.0 HEAT-CONTROL = COLDEST
* 469 * SUPPLY-CFM = 15990. RETURN-CFM = 11520.

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* 470 *      RATED-CFM = 15990.  MIN-OUTSIDE-AIR = 0.27
* 471 *      SUPPLY-DELTA-T = 2.4  SUPPLY-KW = 0.00098
* 472 *      NIGHT-CYCLE-CTRL = STAY-OFF  NIGHT-VENT-DT = 0.0
* 473 *      HEATING-CAPACITY = -489000.  FURNACE-AUX = 0.
* 474 *      ZONE-NAMES = (GROUNDFLOR)  ..
* 475 *
* 476 * HVU-3      =SYSTEM  SYSTEM-TYPE = HVSYS
* 477 *      MAX-SUPPLY-T = 130.0  HEATING-SCHEDULE = FULL_ON
* 478 *      MIN-HUMIDITY = 30.0  ECONO-LIMIT-T = 65.0
* 479 *      ECONO-LOW-LIMIT = 55.0  HEAT-CONTROL = COLDEST
* 480 *      SUPPLY-CFM = 9040.  RETURN-CFM = 8040.
* 481 *      RATED-CFM = 9040.  MIN-OUTSIDE-AIR = 0.11
* 482 *      FAN-SCHEDULE = FAN W SB  SUPPLY-DELTA-T = 2.4
* 483 *      SUPPLY-KW = 0.00117  NIGHT-CYCLE-CTRL = CYCLE-ON-ANY
* 484 *      NIGHT-VENT-DT = 0.0  HEATING-CAPACITY = -207600.
* 485 *      FURNACE-AUX = 0.
* 486 *      ZONE-NAMES = (SECONDFLOR)  ..
* 487 *
* 488 * ACU-1      =SYSTEM  SYSTEM-TYPE = PSZ
* 489 *      MAX-SUPPLY-T = 130.0  MIN-SUPPLY-T = 55.0
* 490 *      HEATING-SCHEDULE = FULL_ON
* 491 *      COOLING-SCHEDULE = FULL_ON  MIN-HUMIDITY = 30.0
* 492 *      ECONO-LIMIT-T = 65.0  ECONO-LOW-LIMIT = 55.0
* 493 *      SUPPLY-CFM = 1250.  RETURN-CFM = 1000.
* 494 *      RATED-CFM = 1250.  MIN-OUTSIDE-AIR = 0.2
* 495 *      SUPPLY-DELTA-T = 1.8  SUPPLY-KW = 0.00059
* 496 *      NIGHT-CYCLE-CTRL = STAY-OFF  NIGHT-VENT-DT = 0.0
* 497 *      COOLING-CAPACITY = 32200.  COOL-FT-MIN = 0.
* 498 *      HEATING-CAPACITY = -22100.  FURNACE-AUX = 0.
* 499 *      CRANKCASE-MAX-T = 0.  OUTSIDE-FAN-T = 45.
* 500 *      HEAT-SOURCE = HOT-WATER
* 501 *      ZONE-HEAT-SOURCE = HOT-WATER
* 502 *      BASEBOARD-SOURCE = HOT-WATER
* 503 *      ZONE-NAMES = (DISPATCH)  ..
* 504 *
* 505 * END  ..
* 506 * COMPUTE SYSTEMS  ..
* 507 *
* 508 * INPUT PLANT  ..

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PDL PROCESSOR INPUT DATA

3/18/1995 10:50:47 PDL RUN 1

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\$-----\$  
 \$EZ - DOE PLANTS INPUT \$  
 \$-----\$

\$ GENERAL PROJECT DATA

TITLE LINE-1 \* EMC ENGINEERS INC. \*  
 LINE-2 \*EZDOE - ELITE SOFTWARE DEVELOPMENT INC\*  
 LINE-3 \* DENVER, CO 80227 \*  
 LINE-4 \*BUILDING 10715, POST SAFETY/LEA \*  
 LINE-5 \*MODEL WITH SET BACK & ECONOMIZER \* ..

ABORT ERRORS ..  
 DIAGNOSTIC WARNINGS ..  
 PLANT-REPORT VERIFICATION=(PV-A)  
 SUMMARY=(PS-A, PS-B, PS-D, PS-H, PS-I, BEPS) ..

\$ SCHEDULES

DAY\_ON =DAY-SCHEDULE (1,7) (0.)  
 (8,18) (1.)  
 (19,24) (0.) ..

FULL\_ON =WEEK-SCHEDULE (ALL) DAY\_ON ..

\$ heating plant schedule  
 heating =SCHEDULE THRU DEC 31 FULL\_ON ..

\$ EQUIPMENT DESCRIPTION

HX-1&2SPH =PLANT-EQUIPMENT TYPE = HTANK-STORAGE  
 SIZE = -1.8 ..

DHW =PLANT-EQUIPMENT TYPE = HTANK-STORAGE  
 SIZE = -0.1 ..

PLANT-PARAMETERS MAKEUP-WTR-T = 50. STM-BOILER-HIR = 0.76  
 HW-BOILER-HIR = 1.27 CHILLER-CONTROL = STANDBY  
 OPEN-REC-COND-TYPE = AIR HERM-REC-COND-TYPE = AIR  
 COMP-TO-TWR-WTR = 2.77 CCIRC-HEAD = 100.0  
 HCIRC-HEAD = 40.0 ..

PART-LOAD-RATIO TYPE = HW-BOILER  
 MIN-RATIO = 0.2500 MAX-RATIO = 1.0000  
 OPERATING-RATIO = 1.0000 ELEC-INPUT-RATIO = 0.0220 ..

ENERGY-RESOURCE RESOURCE = STEAM ..  
 ENERGY-RESOURCE RESOURCE = ELECTRICITY ..  
 ENERGY-RESOURCE RESOURCE = STEAM ..

ENERGY-STORAGE HEAT-STORE-RATE = 2.75 HEAT-SUPPLY-RATE = 2.75  
 HTANK-BASE-T = 210.0 HTANK-T-RANGE = 15.6  
 HEAT-STORE-SCH = heating ..

HEAT-RECOVERY  
 SUPPLY-1 = (HTANK-STORAGE, HTANK-STORAGE)  
 DEMAND-1 = (PROCESS-HEAT, SPACE-HEAT) ..

END ..  
 COMPUTE PLANT ..  
 STOP ..

ENERGY TYPE IN SITE MBTU-	STEAM	ELECTRICITY	RECOVERED
CATEGORY OF USE			
SPACE HEAT	2,512.57	10.98	0.00
SPACE COOL	0.00	4.31	0.00
HVAC AUX	0.00	626.29	0.00
DOM HOT WTR	0.00	0.00	0.00
AUX SOLAR	0.00	0.00	0.00
LIGHTS	0.00	296.49	0.00
VERT TRANS	0.00	0.00	0.00
MISC EQUIP	0.00	63.54	0.00
	-----	-----	-----
TOTAL	2,512.57	1,001.60	0.00

TOTAL SITE ENERGY 3514.19 MBTU 69.5 KBTU/SQFT-YR GROSS-AREA 129.3 KBTU/SQFT-YR NET-AREA  
 TOTAL SOURCE ENERGY 7195.46 MBTU 142.2 KBTU/SQFT-YR GROSS-AREA 264.7 KBTU/SQFT-YR NET-AREA

PERCENT OF HOURS ANY SYSTEM ZONE OUTSIDE OF THROTTLING RANGE = 0.1  
 PERCENT OF HOURS ANY PLANT LOAD NOT SATISFIED = 0.0

NOTE ELECTRICITY AND/OR FUEL USED TO GENERATE ELECTRICITY IS APPORTIONED BASED  
 ON THE YEARLY DEMAND. ALL OTHER ENERGY TYPES ARE APPORTIONED HOURLY.

MO	UTILITY-	STEAM	ELECTRICITY
	TOTAL (MBTU)	524.011	86.519
JAN	PEAK (KBTU)	1777.560	206.166
	DY/HR	5/12	5/12
	TOTAL (MBTU)	392.695	78.186
FEB	PEAK (KBTU)	1279.394	204.981
	DY/HR	4/ 9	4/12
	TOTAL (MBTU)	388.428	86.531
MAR	PEAK (KBTU)	1160.254	205.595
	DY/HR	9/ 7	9/ 8
	TOTAL (MBTU)	202.627	82.100
APR	PEAK (KBTU)	809.682	203.645
	DY/HR	1/ 7	1/ 8
	TOTAL (MBTU)	108.806	84.208
MAY	PEAK (KBTU)	728.332	203.116
	DY/HR	16/ 8	16/ 8
	TOTAL (MBTU)	21.674	81.251
JUN	PEAK (KBTU)	248.154	201.773
	DY/HR	8/ 5	17/12
	TOTAL (MBTU)	9.603	83.919
JUL	PEAK (KBTU)	176.968	205.921
	DY/HR	25/ 5	18/12
	TOTAL (MBTU)	16.261	84.089
AUG	PEAK (KBTU)	438.726	201.883
	DY/HR	6/24	18/12
	TOTAL (MBTU)	55.889	81.746
SEP	PEAK (KBTU)	414.665	204.262
	DY/HR	23/ 7	2/12
	TOTAL (MBTU)	139.124	84.087
OCT	PEAK (KBTU)	673.827	203.539
	DY/HR	28/ 8	26/12
	TOTAL (MBTU)	251.102	82.611
NOV	PEAK (KBTU)	930.047	204.059
	DY/HR	28/ 7	29/ 8
	TOTAL (MBTU)	402.358	86.363
DEC	PEAK (KBTU)	1238.417	205.403
	DY/HR	23/ 8	28/ 8
	ONE YEAR	2512.578	1001.609
	USE/PEAK	1777.560	206.166



LDL PROCESSOR INPUT DATA

3/18/1995 10:53:29 LDL RUN 1

```

* 3 *
* 4 *
* 5 *
* 6 *          $-----$
* 7 *          $EZ - DOE LOADS INPUT$
* 8 *          $-----$
* 9 *
* 10 *          $ GENERAL PROJECT DATA
* 11 * TITLE LINE-1 * EMC ENGINEERS INC. *
* 12 * LINE-2 *EZDOE - ELITE SOFTWARE DEVELOPMENT INC*
* 13 * LINE-3 * DENVER, CO 80227 *
* 14 *
* 15 * LINE-4 *BUILDING 10715, POST SAFETY/LEA *
* 16 * LINE-5 *MODEL WITH SETBACK,ECONOMIZER, & DDC * ..
* 17 *
* 18 * ABORT ERRORS ..
* 19 * DIAGNOSTIC WARNINGS ..
* 20 * LOADS-REPORT VERIFICATION=(LV-A,LV-B,LV-C)
* 21 * SUMMARY=(LS-A,LS-B,LS-C,LS-D,LS-E,LS-F,LS-K) ..
* 22 * BUILDING-LOCATION LATITUDE = 44.0
* 23 * ALTITUDE = 655.
* 24 * AZIMUTH = -130.
* 25 * TIME-ZONE = 5
* 26 * GROSS-AREA = 50591
* 27 * HOLIDAY = NO
* 28 * SHIELDING-COEFF = 0.29
* 29 * X-REF = 0.0
* 30 * Y-REF = 0.0 ..
* 31 * RUN-PERIOD JAN 1 1994 THRU DEC 31 1994 ..
* 32 *
* 33 *
* 34 *          $ SCHEDULES
* 35 *
* 36 * LIGHTS =DAY-SCHEDULE (1,2) (1.)
* 37 * (3,11) (0.5)
* 38 * (12,13) (0.6)
* 39 * (14,24) (1.) ..
* 40 *
* 41 * OCCUP =DAY-SCHEDULE (1,5) (0.)
* 42 * (6,10) (0.1,0.5,0.9,0.8,0.5)
* 43 * (11,14) (0.7,0.9,0.8,0.4)
* 44 * (15,16) (0.3)
* 45 * (17,18) (0.5,0.9)
* 46 * (19,20) (0.7,0.2)
* 47 * (21,24) (0.) ..
* 48 *
* 49 * APPLIANCE =DAY-SCHEDULE (1) (0.)
* 50 * (2,3) (0.7)
* 51 * (4,12) (0.02)
* 52 * (13,15) (0.6)
* 53 * (16,18) (0.02)
* 54 * (19,20) (0.7)
* 55 * (21,24) (0.8) ..
* 56 *
* 57 * CND_DAY =DAY-SCHEDULE (1,24) (1.) ..
* 58 *
* 59 * FULL_OFFD =DAY-SCHEDULE (1,24) (0.) ..
* 60 *
* 61 * appliance =DAY-SCHEDULE (1,5) (0.)
* 62 * (6,7) (0.4)
* 63 * (8,11) (0.6)
* 64 * (12,13) (0.8)
* 65 * (14,15) (0.5)
* 66 * (16,17) (0.8)
* 67 * (18,19) (0.6)
* 68 * (20,24) (0.) ..
* 69 *
* 70 * lights =DAY-SCHEDULE (1,5) (0.2)
* 71 * (6) (0.5)
* 72 * (7,17) (0.9)
* 73 * (18,19) (0.8,0.7)
* 74 * (20,24) (0.2) ..
* 75 *
* 76 * worship =DAY-SCHEDULE (1,6) (0.)
* 77 * (7,10) (0.2,0.7,0.8,0.5)
* 78 * (11,16) (0.2)
* 79 * (17,18) (0.1,0.3)
* 80 * (19,20) (0.5,0.2)
* 81 * (21,24) (0.) ..
* 82 *
* 83 * chapelwkdy =DAY-SCHEDULE (1,7) (0.)
* 84 * (8,18) (0.2)
* 85 * (19,20) (0.3)
* 86 * (21,24) (0.) ..
* 87 *
* 88 *
* 89 * PEOPLE =WEEK-SCHEDULE (ALL) OCCUP ..
* 90 *
* 91 * LIGHTS_WK =WEEK-SCHEDULE (ALL) lights ..
* 92 *
* 93 * APPLI_WK =WEEK-SCHEDULE (ALL) appliance ..
* 94 *
* 95 * CND_WK =WEEK-SCHEDULE (ALL) CND_DAY ..
* 96 *
* 97 * FULL_OFFW =WEEK-SCHEDULE (ALL) FULL_OFFD ..
* 98 *
* 99 * chapel =WEEK-SCHEDULE (WD) chapelwkdy
* 100 * (SAT) chapelwkdy
* 101 * (SUN) worship
* 102 * (HOL) worship ..

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* 103 *
* 104 *
* 105 * $ FULL ON SCHEDULE
* 106 * FULL_ON =SCHEDULE THRU DEC 31 PEOPLE ..
* 107 *
* 108 * $ LOADS OCCUPANCY SCHED
* 109 * OCCUPANCY =SCHEDULE THRU DEC 31 PEOPLE ..
* 110 *
* 111 * $ LIGHTING SCHEDULE
* 112 * LIGHTS_ON =SCHEDULE THRU DEC 31 LIGHTS_WK ..
* 113 *
* 114 * $ APPLIANCE SCHEDULE
* 115 * APPLI_ON =SCHEDULE THRU DEC 31 APPLI_WK ..
* 116 *
* 117 * $ COND VENTIL SCHED
* 118 * CND_SCHED =SCHEDULE THRU MAR 1 FULL_OFFW
* 119 * THRU NOV 30 CND_WK
* 120 * THRU DEC 31 FULL_OFFW ..
* 121 *
* 122 * $ LOADS OCCUPANCY SCHED
* 123 * Chapelschd =SCHEDULE THRU DEC 31 chapel ..
* 124 *
* 125 *
* 126 *
* 127 * $ CONSTRUCTION TYPES
* 128 *
* 129 *
* 130 *
* 131 *
* 132 * $ DOOR CONSTRUCTION
* 133 * DOORCON =CONSTRUCTION U-VALUE = 0.400 ..
* 134 * FLOOR =CONSTRUCTION U-VALUE = 0.100
* 135 * ABSORPTANCE = 1.000
* 136 * ROUGHNESS = 1 ..
* 137 * ROOFCON =CONSTRUCTION U-VALUE = 0.050 ..
* 138 * EXWALL =CONSTRUCTION U-VALUE = 0.200
* 139 * ABSORPTANCE = 0.750 ..
* 140 * INWALL =CONSTRUCTION U-VALUE = 0.500 ..
* 141 *
* 142 * GTYPE_1 =GLASS-TYPE SHADING-COEF = 0.400
* 143 * PANES = 1
* 144 * GLASS-CONDUCTANCE = 1.130 ..
* 145 * GTYPE_2 =GLASS-TYPE SHADING-COEF = 0.300
* 146 * PANES = 1
* 147 * GLASS-CONDUCTANCE = 0.790 ..
* 148 * GTYPE_3 =GLASS-TYPE SHADING-COEF = 0.400
* 149 * PANES = 1
* 150 * GLASS-CONDUCTANCE = 0.360 ..
* 151 *
* 152 *
* 153 *
* 154 *
* 155 * $ SPACE DESCRIPTION
* 156 *
* 157 * GROUNDFLOR =SPACE AREA = 14790.0 VOLUME = 133110.0
* 158 * AZIMUTH = 45 TEMPERATURE = (68.)
* 159 * ZONE-TYPE = CONDITIONED PEOPLE-SCHEDULE = FULL_ON
* 160 * NUMBER-OF-PEOPLE = 50.0 PEOPLE-HEAT-GAIN = 550.0
* 161 * LIGHTING-KW = 14.0 LIGHTING-SCHEDULE = FULL_ON
* 162 * EQUIP-SCHEDULE = FULL_ON EQUIPMENT-KW = 3.0
* 163 * INF-METHOD = AIR-CHANGE AIR-CHANGES/HR = 1.25
* 164 * INF-SCHEDULE = FULL_ON ..
* 165 *
* 166 * E-W HEIGHT = 9.0 WIDTH = 56.0 CONS = EXWALL
* 167 * AZIMUTH = 45 ..
* 168 *
* 169 * WINDOW HEIGHT = 5.0 WIDTH = 3.0 G-T = GTYPE_1
* 170 * MULTIPLIER = 5.0 ..
* 171 *
* 172 * DOOR HEIGHT = 8.0 WIDTH = 3.0 CONS = DOORCON ..
* 173 *
* 174 * E-W HEIGHT = 9.0 WIDTH = 72.0 CONS = EXWALL
* 175 * AZIMUTH = 135 ..
* 176 *
* 177 * WINDOW HEIGHT = 5.0 WIDTH = 3.0 G-T = GTYPE_1
* 178 * MULTIPLIER = 5.0 ..
* 179 *
* 180 * DOOR HEIGHT = 8.0 WIDTH = 3.0 CONS = DOORCON
* 181 * MULTIPLIER = 2.0 ..
* 182 *
* 183 * E-W HEIGHT = 9.0 WIDTH = 23.0 CONS = EXWALL
* 184 * AZIMUTH = 45 ..
* 185 *
* 186 * WINDOW HEIGHT = 5.0 WIDTH = 3.0 G-T = GTYPE_1
* 187 * MULTIPLIER = 3.0 ..
* 188 *
* 189 * E-W HEIGHT = 9.0 WIDTH = 48.0 CONS = EXWALL
* 190 * AZIMUTH = 135 ..
* 191 *
* 192 * WINDOW HEIGHT = 5.0 WIDTH = 3.0 G-T = GTYPE_1
* 193 * MULTIPLIER = 6.0 ..
* 194 *
* 195 * E-W HEIGHT = 9.0 WIDTH = 23.0 CONS = EXWALL
* 196 * AZIMUTH = 225 ..
* 197 *
* 198 * WINDOW HEIGHT = 5.0 WIDTH = 3.0 G-T = GTYPE_1
* 199 * MULTIPLIER = 3.0 ..
* 200 *
* 201 * E-W HEIGHT = 9.0 WIDTH = 18.0 CONS = EXWALL
* 202 * AZIMUTH = 135 ..
* 203 *
* 204 * E-W HEIGHT = 9.0 WIDTH = 55.0 CONS = EXWALL
* 205 * AZIMUTH = 225 ..
* 206 *
* 207 * WINDOW HEIGHT = 5.0 WIDTH = 3.0 G-T = GTYPE_1
* 208 * MULTIPLIER = 6.0 ..
* 209 *
* 210 * E-W HEIGHT = 9.0 WIDTH = 18.0 CONS = EXWALL

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* 211 *           AZIMUTH = 315 ..
* 212 *
* 213 *           WINDOW HEIGHT = 5.0 WIDTH = 3.0 G-T = GTYPE_1
* 214 *           MULTIPLIER = 2.0 ..
* 215 *
* 216 *           E-W HEIGHT = 9.0 WIDTH = 133.0 CONS = EXWALL
* 217 *           AZIMUTH = 45 ..
* 218 *
* 219 *           WINDOW HEIGHT = 5.0 WIDTH = 3.0 G-T = GTYPE_1
* 220 *           MULTIPLIER = 13.0 ..
* 221 *
* 222 *           E-W HEIGHT = 9.0 WIDTH = 48.0 CONS = EXWALL
* 223 *           AZIMUTH = 315 ..
* 224 *
* 225 *           DOOR HEIGHT = 8.0 WIDTH = 3.0 CONS = DOORCON ..
* 226 *
* 227 *           E-W HEIGHT = 9.0 WIDTH = 133.0 CONS = EXWALL
* 228 *           AZIMUTH = 45 ..
* 229 *
* 230 *           DOOR HEIGHT = 8.0 WIDTH = 3.0 CONS = DOORCON
* 231 *           MULTIPLIER = 7.0 ..
* 232 *
* 233 *           U-W HEIGHT = 121.6 WIDTH = 121.6 CONS = FLOOR
* 234 *           AZIMUTH = 45 ..
* 235 *
* 236 *           I-W HEIGHT = 121.6 WIDTH = 121.6 CONS = INWALL
* 237 *           AZIMUTH = 45 NEXT-TO = SECONDFLOR ..
* 238 *
* 239 *           E-W HEIGHT = 9.0 WIDTH = 72.0 CONS = EXWALL
* 240 *           AZIMUTH = 315 ..
* 241 *
* 242 *           DOOR HEIGHT = 8.0 WIDTH = 3.0 CONS = DOORCON
* 243 *           MULTIPLIER = 2.0 ..
* 244 *
* 245 *           WINDOW HEIGHT = 5.0 WIDTH = 3.0 G-T = GTYPE_1
* 246 *           MULTIPLIER = 8.0 ..
* 247 *
* 248 *           I-W HEIGHT = 9.0 WIDTH = 10.0 CONS = INWALL
* 249 *           NEXT-TO = DISPATCH ..
* 250 *
* 251 *           I-W HEIGHT = 9.0 WIDTH = 37.0 CONS = INWALL
* 252 *           NEXT-TO = DISPATCH ..
* 253 *
* 254 *           I-W HEIGHT = 9.0 WIDTH = 10.0 CONS = INWALL
* 255 *           NEXT-TO = DISPATCH ..
* 256 *
* 257 *           I-W HEIGHT = 9.0 WIDTH = 37.0 CONS = INWALL
* 258 *           NEXT-TO = DISPATCH ..
* 259 *
* 260 *
* 261 * SECONDFLOR =SPACE AREA = 12020.0 VOLUME = 108180.0
* 262 *           AZIMUTH = 45 TEMPERATURE = (68.)
* 263 *           ZONE-TYPE = CONDITIONED PEOPLE-SCHEDULE = FULL_ON
* 264 *           NUMBER-OF-PEOPLE = 25.0 PEOPLE-HEAT-GAIN = 550.0
* 265 *           LIGHTING-KW = 14.0 LIGHTING-SCHEDULE = FULL_ON
* 266 *           EQUIP-SCHEDULE = FULL_ON EQUIPMENT-KW = 3.0
* 267 *           INF-METHOD = AIR-CHANGE AIR-CHANGES/HR = 1.0
* 268 *           INF-SCHEDULE = FULL_ON ..
* 269 *
* 270 *           E-W HEIGHT = 9.0 WIDTH = 56.0 CONS = EXWALL
* 271 *           AZIMUTH = 45 ..
* 272 *
* 273 *           WINDOW HEIGHT = 5.0 WIDTH = 3.0 G-T = GTYPE_1
* 274 *           MULTIPLIER = 6.0 ..
* 275 *
* 276 *           E-W HEIGHT = 9.0 WIDTH = 72.0 CONS = EXWALL
* 277 *           AZIMUTH = 135 ..
* 278 *
* 279 *           WINDOW HEIGHT = 5.0 WIDTH = 3.0 G-T = GTYPE_1
* 280 *           MULTIPLIER = 7.0 ..
* 281 *
* 282 *           E-W HEIGHT = 9.0 WIDTH = 23.0 CONS = EXWALL
* 283 *           AZIMUTH = 45 ..
* 284 *
* 285 *           WINDOW HEIGHT = 5.0 WIDTH = 3.0 G-T = GTYPE_1
* 286 *           MULTIPLIER = 3.0 ..
* 287 *
* 288 *           E-W HEIGHT = 9.0 WIDTH = 48.0 CONS = EXWALL
* 289 *           AZIMUTH = 135 ..
* 290 *
* 291 *           WINDOW HEIGHT = 5.0 WIDTH = 3.0 G-T = GTYPE_1
* 292 *           MULTIPLIER = 6.0 ..
* 293 *
* 294 *           E-W HEIGHT = 9.0 WIDTH = 23.0 CONS = EXWALL
* 295 *           AZIMUTH = 225 ..
* 296 *
* 297 *           E-W HEIGHT = 9.0 WIDTH = 18.0 CONS = EXWALL
* 298 *           AZIMUTH = 135 ..
* 299 *
* 300 *           E-W HEIGHT = 9.0 WIDTH = 55.0 CONS = EXWALL
* 301 *           AZIMUTH = 225 ..
* 302 *
* 303 *           WINDOW HEIGHT = 5.0 WIDTH = 3.0 G-T = GTYPE_1
* 304 *           MULTIPLIER = 6.0 ..
* 305 *
* 306 *           E-W HEIGHT = 9.0 WIDTH = 18.0 CONS = EXWALL
* 307 *           AZIMUTH = 315 ..
* 308 *
* 309 *           WINDOW HEIGHT = 5.0 WIDTH = 3.0 G-T = GTYPE_1
* 310 *           MULTIPLIER = 2.0 ..
* 311 *
* 312 *           E-W HEIGHT = 9.0 WIDTH = 21.0 CONS = EXWALL
* 313 *           AZIMUTH = 45 TILT = 0 ..
* 314 *
* 315 *           WINDOW HEIGHT = 5.0 WIDTH = 3.0 G-T = GTYPE_1
* 316 *           MULTIPLIER = 7.0 ..
* 317 *
* 318 *           E-W HEIGHT = 9.0 WIDTH = 48.0 CONS = EXWALL

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* 319 *                AZIMUTH = 315  ..
* 320 *
* 321 *      E-W      HEIGHT = 9.0  WIDTH = 21.0  CONS = EXWALL
* 322 *                AZIMUTH = 45  ..
* 323 *
* 324 *      WINDOW  HEIGHT = 5.0  WIDTH = 3.0  G-T = GTYPE_1
* 325 *                MULTIPLIER = 6.0  ..
* 326 *
* 327 *      I-W      HEIGHT = 97.0  WIDTH = 97.0  CONS = INWALL
* 328 *                AZIMUTH = 45  NEXT-TO = GROUNDFLOR  ..
* 329 *
* 330 *      ROOF      HEIGHT = 97.0  WIDTH = 97.0  CONS = ROOFCON
* 331 *                AZIMUTH = 45  TILT = 0  ..
* 332 *
* 333 *      E-W      HEIGHT = 9.0  WIDTH = 72.0  CONS = EXWALL
* 334 *                AZIMUTH = 315  ..
* 335 *
* 336 *      WINDOW  HEIGHT = 5.0  WIDTH = 3.0  G-T = GTYPE_1
* 337 *                MULTIPLIER = 10.0  ..
* 338 *
* 339 *
* 340 *  DISPATCH  =SPACE  AREA = 370.0  VOLUME = 3400.0
* 341 *                AZIMUTH = 45  TEMPERATURE = (68.)
* 342 *                ZONE-TYPE = CONDITIONED  PEOPLE-SCHEDULE = FULL_ON
* 343 *                NUMBER-OF-PEOPLE = 5.0  PEOPLE-HEAT-GAIN = 550.0
* 344 *                LIGHTING-SCHEDULE = FULL_ON  EQUIP-SCHEDULE = FULL_ON
* 345 *                INF-METHOD = AIR-CHANGE  AIR-CHANGES/HR = 0.25
* 346 *                INF-SCHEDULE = FULL_ON  ..
* 347 *
* 348 *      I-W      HEIGHT = 9.0  WIDTH = 10.0  CONS = INWALL
* 349 *                NEXT-TO = GROUNDFLOR  ..
* 350 *
* 351 *      I-W      HEIGHT = 9.0  WIDTH = 37.0  CONS = INWALL
* 352 *                NEXT-TO = GROUNDFLOR  ..
* 353 *
* 354 *      I-W      HEIGHT = 9.0  WIDTH = 10.0  CONS = INWALL
* 355 *                NEXT-TO = GROUNDFLOR  ..
* 356 *
* 357 *      I-W      HEIGHT = 9.0  WIDTH = 37.0  CONS = INWALL
* 358 *                NEXT-TO = GROUNDFLOR  ..
* 359 *
* 360 *      I-W      HEIGHT = 10.0  WIDTH = 37.0  CONS = ROOFCON
* 361 *                NEXT-TO = SECONDFLOR  ..
* 362 *
* 363 *      U-W      HEIGHT = 10.0  WIDTH = 37.0  CONS = FLOOR ..
* 364 *
* 365 *
* 366 *  END  ..
* 367 *  COMPUTE LOADS  ..
* 368 *
* 369 *  INPUT SYSTEMS  ..

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**COMPUTER SIMULATIONS**  
**BUILDING 10715**

RUN 3 - DDC

# SDL PROCESSOR INPUT DATA

3/18/1995 10:53:29 SDL RUN 1

```

* 370 *
* 371 *
* 372 *
* 373 *
* 374 *
* 375 *
* 376 *
* 377 *
* 378 * TITLE LINE-1 * EMC ENGINEERS INC. *
* 379 * LINE-2 *EZDOE - ELITE SOFTWARE DEVELOPMENT INC*
* 380 * LINE-3 * DENVER, CO 80227 *
* 381 *
* 382 * LINE-4 *BUILDING 10715, POST SAFETY/LEA *
* 383 * LINE-5 *MODEL WITH SETBACK,ECONOMIZER, & DDC * ..
* 384 * ABORT ERRORS ..
* 385 * DIAGNOSTIC WARNINGS ..
* 386 * SYSTEMS-REPORT VERIFICATION=(SV-A,SV-B)
* 387 * SUMMARY=(SS-A,SS-B,SS-C,SS-D,SS-E,SS-F,SS-G,
* 388 * SS-H,SS-I,SS-J,SS-K,SS-L,SS-M,SS-N,
* 389 * SS-O) ..
* 390 *
* 391 *
* 392 *
* 393 * D_FULL =DAY-SCHEDULE (1,24) (1.) ..
* 394 * D_OFF =DAY-SCHEDULE (1,24) (0.) ..
* 395 * HEAT_68_D =DAY-SCHEDULE (1,24) (68.) ..
* 396 * COOL_72_D =DAY-SCHEDULE (1,24) (78.) ..
* 397 * FAN_WSB_D =DAY-SCHEDULE (1,6) (0.)
* 398 * (7,17) (1.)
* 399 * (18,24) (0.) ..
* 400 * HT68_WSB_D =DAY-SCHEDULE (1,6) (50.)
* 401 * (7,17) (68.)
* 402 * (18,24) (50.) ..
* 403 * HEAT_50_D =DAY-SCHEDULE (1,24) (50.) ..
* 404 *
* 405 * W_FULL =WEEK-SCHEDULE (ALL) D_FULL ..
* 406 *
* 407 * FULL_OFF_W =WEEK-SCHEDULE (ALL) D_OFF ..
* 408 *
* 409 * HEAT_68_W =WEEK-SCHEDULE (ALL) HEAT_68_D ..
* 410 *
* 411 * COOL_72_W =WEEK-SCHEDULE (ALL) COOL_72_D ..
* 412 *
* 413 * FAN_WSB_W =WEEK-SCHEDULE (WD) FAN_WSB_D
* 414 * (SAT) D_OFF
* 415 * (SUN) D_OFF
* 416 * (HOL) FAN_WSB_D ..
* 417 *
* 418 * HT68_WSB_W =WEEK-SCHEDULE (WD) HT68_WSB_D
* 419 * (SAT) HEAT_50_D
* 420 * (SUN) HEAT_50_D
* 421 * (HOL) HT68_WSB_D ..
* 422 *
* 423 *
* 424 * FULL_ON =SCHEDULE THRU DEC 31 W_FULL ..
* 425 *
* 426 * FULL_OFF =SCHEDULE THRU DEC 31 FULL_OFF_W ..
* 427 *
* 428 * HEAT_68 =SCHEDULE THRU DEC 31 HEAT_68_W ..
* 429 *
* 430 * COOL_72 =SCHEDULE THRU DEC 31 COOL_72_W ..
* 431 *
* 432 * FAN_W_SB =SCHEDULE THRU DEC 31 FAN_WSB_W ..
* 433 *
* 434 * $ HEAT WITH SET BACK
* 435 * HT_68_W_SB =SCHEDULE THRU DEC 31 HT68_WSB_W ..
* 436 *
* 437 *
* 438 *
* 439 *
* 440 *
* 441 *
* 442 *
* 443 *
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* 445 *
* 446 *
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* 461 *
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* 463 *
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* 465 *
* 466 *
* 467 *
* 468 *
* 469 *

```

\$ GENERAL PROJECT DATA

\$ ZONE DESCRIPTION

\$ SYSTEM DESCRIPTION

```

* 470 *          SUPPLY-DELTA-T = 2.4  SUPPLY-KW = 0.00098
* 471 *          NIGHT-CYCLE-CTRL = STAY-OFF  NIGHT-VENT-DT = 0.0
* 472 *          HEATING-CAPACITY = -489000.  FURNACE-AUX = 0.
* 473 *          ZONE-NAMES = (GROUNDFLOR)  ..
* 474 *
* 475 * HVU-3      =SYSTEM  SYSTEM-TYPE = HVSYS
* 476 *          MAX-SUPPLY-T = 130.0  HEATING-SCHEDULE = FULL_ON
* 477 *          MIN-HUMIDITY = 30.0  ECONO-LIMIT-T = 65.0
* 478 *          ECONO-LOW-LIMIT = 55.0  HEAT-CONTROL = COLDEST
* 479 *          SUPPLY-CFM = 9040.  RETURN-CFM = 8040.
* 480 *          RATED-CFM = 9040.  MIN-OUTSIDE-AIR = 0.11
* 481 *          FAN-SCHEDULE = FAN_W_SB  SUPPLY-DELTA-T = 2.4
* 482 *          SUPPLY-KW = 0.00117  NIGHT-CYCLE-CTRL = CYCLE-ON-ANY
* 483 *          NIGHT-VENT-DT = 0.0  HEATING-CAPACITY = -207600.
* 484 *          FURNACE-AUX = 0.
* 485 *          ZONE-NAMES = (SECONDFLOR)  ..
* 486 *
* 487 * ACU-1      =SYSTEM  SYSTEM-TYPE = PSZ
* 488 *          MAX-SUPPLY-T = 130.0  MIN-SUPPLY-T = 55.0
* 489 *          HEATING-SCHEDULE = FULL_ON
* 490 *          COOLING-SCHEDULE = FULL_ON  MIN-HUMIDITY = 30.0
* 491 *          ECONO-LIMIT-T = 65.0  ECONO-LOW-LIMIT = 55.0
* 492 *          SUPPLY-CFM = 1250.  RETURN-CFM = 1000.
* 493 *          RATED-CFM = 1250.  MIN-OUTSIDE-AIR = 0.2
* 494 *          SUPPLY-DELTA-T = 1.8  SUPPLY-KW = 0.00059
* 495 *          NIGHT-CYCLE-CTRL = STAY-OFF  NIGHT-VENT-DT = 0.0
* 496 *          COOLING-CAPACITY = 32200.  COOL-FT-MIN = 0.
* 497 *          HEATING-CAPACITY = -22100.  FURNACE-AUX = 0.
* 498 *          CRANKCASE-MAX-T = 0.  OUTSIDE-FAN-T = 45.
* 499 *          HEAT-SOURCE = HOT-WATER
* 500 *          ZONE-HEAT-SOURCE = HOT-WATER
* 501 *          BASEBOARD-SOURCE = HOT-WATER
* 502 *          ZONE-NAMES = (DISPATCH)  ..
* 503 *
* 504 * END  ..
* 505 * COMPUTE SYSTEMS  ..
* 506 *
* 507 * INPUT PLANT  ..

```

PDL PROCESSOR INPUT DATA

3/18/1995 10:53:29 PDL RUN 1

```

* 508 *
* 509 *
* 510 *          $-----$
* 511 *          $EZ - DOE PLANTS INPUT$
* 512 *          $-----$
* 513 *
* 514 *          $ GENERAL PROJECT DATA
* 515 *
* 516 * TITLE LINE-1 * EMC ENGINEERS INC. *
* 517 * LINE-2 *EZDOE - ELITE SOFTWARE DEVELOPMENT INC*
* 518 * LINE-3 * DENVER, CO 80227 *
* 519 *
* 520 * LINE-4 *BUILDING 10715, POST SAFETY/LEA *
* 521 * LINE-5 *MODEL WITH SETBACK,ECONOMIZER, & DDC * ..
* 522 *
* 523 * ABORT ERRORS ..
* 524 * DIAGNOSTIC WARNINGS ..
* 525 * PLANT-REPORT VERIFICATION=(PV-A)
* 526 * SUMMARY=(PS-A,PS-B,PS-D,PS-H,PS-I,BEPS) ..
* 527 *
* 528 *          $ SCHEDULES
* 529 *
* 530 * DAY_ON =DAY-SCHEDULE (1,7) (0.)
* 531 * (8,18) (1.)
* 532 * (19,24) (0.) ..
* 533 *
* 534 *
* 535 * FULL_ON =WEEK-SCHEDULE (ALL) DAY_ON ..
* 536 *
* 537 *
* 538 * $ heating plant schedule
* 539 * heating =SCHEDULE THRU DEC 31 FULL_ON ..
* 540 *
* 541 *
* 542 *          $ EQUIPMENT DESCRIPTION
* 543 *
* 544 *
* 545 * HX-1&2SPH =PLANT-EQUIPMENT TYPE = HTANK-STORAGE
* 546 * SIZE = -1.8 ..
* 547 *
* 548 * DHW =PLANT-EQUIPMENT TYPE = HTANK-STORAGE
* 549 * SIZE = -0.1 ..
* 550 *
* 551 * PLANT-PARAMETERS MAKEUP-WTR-T = 50. STM-BOILER-HIR = 0.76
* 552 * HW-BOILER-HIR = 1.27 CHILLER-CONTROL = STANDBY
* 553 * OPEN-REC-COND-TYPE = AIR HERM-REC-COND-TYPE = AIR
* 554 * COMP-TO-TWR-WTR = 2.77 CCIRC-HEAD = 100.0
* 555 * HCIRC-HEAD = 40.0 ..
* 556 *
* 557 *
* 558 * PART-LOAD-RATIO TYPE = HW-BOILER
* 559 * MIN-RATIO = 0.2500 MAX-RATIO = 1.0000
* 560 * OPERATING-RATIO = 1.0000 ELEC-INPUT-RATIO = 0.0220 ..
* 561 *
* 562 * ENERGY-RESOURCE RESOURCE = STEAM ..
* 563 * ENERGY-RESOURCE RESOURCE = ELECTRICITY ..
* 564 * ENERGY-RESOURCE RESOURCE = STEAM ..
* 565 *
* 566 * ENERGY-STORAGE HEAT-STORE-RATE = 2.75 HEAT-SUPPLY-RATE = 2.75
* 567 * HTANK-BASE-T = 210.0 HTANK-T-RANGE = 15.6
* 568 * HEAT-STORE-SCH = heating ..
* 569 *
* 570 * HEAT-RECOVERY
* 571 * SUPPLY-1 = (HTANK-STORAGE,HTANK-STORAGE)
* 572 * DEMAND-1 = (PROCESS-HEAT,SPACE-HEAT) ..
* 573 *
* 574 *
* 575 *
* 576 * END ..
* 577 * COMPUTE PLANT ..
* 578 * STOP ..

```



ENERGY TYPE IN SITE MBTU-	STEAM	ELECTRICITY	RECOVERED
CATEGORY OF USE			
SPACE HEAT	2,351.84	9.51	0.00
SPACE COOL	0.00	1.15	0.00
HVAC AUX	0.00	623.91	0.00
DOM HOT WTR	0.00	0.00	0.00
AUX SOLAR	0.00	0.00	0.00
LIGHTS	0.00	296.49	0.00
VERT TRANS	0.00	0.00	0.00
MISC EQUIP	0.00	63.54	0.00
	-----	-----	-----
TOTAL	2,351.84	994.59	0.00

TOTAL SITE ENERGY 3346.44 MBTU 66.1 KBTU/SQFT-YR GROSS-AREA 123.1 KBTU/SQFT-YR NET-AREA  
 TOTAL SOURCE ENERGY 6906.52 MBTU 136.5 KBTU/SQFT-YR GROSS-AREA 254.1 KBTU/SQFT-YR NET-AREA

PERCENT OF HOURS ANY SYSTEM ZONE OUTSIDE OF THROTTLING RANGE = 0.0  
 PERCENT OF HOURS ANY PLANT LOAD NOT SATISFIED = 0.0

NOTE ELECTRICITY AND/OR FUEL USED TO GENERATE ELECTRICITY IS APPORTIONED BASED  
 ON THE YEARLY DEMAND. ALL OTHER ENERGY TYPES ARE APPORTIONED HOURLY.

MO	UTILITY-	STEAM	ELECTRICITY
	TOTAL (MBTU)	501.552	86.085
JAN	PEAK (KBTU)	1693.809	205.499
	DY/HR	5/12	5/12
	TOTAL (MBTU)	374.144	77.802
FEB	PEAK (KBTU)	1224.433	204.350
	DY/HR	4/ 9	4/12
	TOTAL (MBTU)	367.763	86.136
MAR	PEAK (KBTU)	1118.670	204.955
	DY/HR	9/ 7	9/ 8
	TOTAL (MBTU)	185.828	81.795
APR	PEAK (KBTU)	768.619	203.065
	DY/HR	1/ 7	1/ 8
	TOTAL (MBTU)	96.274	83.813
MAY	PEAK (KBTU)	672.781	202.549
	DY/HR	16/ 8	16/ 8
	TOTAL (MBTU)	16.744	80.316
JUN	PEAK (KBTU)	225.021	200.730
	DY/HR	8/ 5	27/ 8
	TOTAL (MBTU)	7.203	82.470
JUL	PEAK (KBTU)	150.741	202.709
	DY/HR	25/ 5	18/12
	TOTAL (MBTU)	12.146	82.978
AUG	PEAK (KBTU)	434.730	200.730
	DY/HR	6/24	31/12
	TOTAL (MBTU)	48.380	81.115
SEP	PEAK (KBTU)	378.239	200.889
	DY/HR	23/ 7	23/12
	TOTAL (MBTU)	124.632	83.807
OCT	PEAK (KBTU)	634.936	202.990
	DY/HR	28/ 8	26/12
	TOTAL (MBTU)	234.145	82.316
NOV	PEAK (KBTU)	890.194	203.472
	DY/HR	28/ 7	29/ 8
	TOTAL (MBTU)	383.024	85.970
DEC	PEAK (KBTU)	1189.534	204.773
	DY/HR	23/ 8	28/ 8
	ONE YEAR	2351.836	994.604
	USE/PEAK	1693.809	205.499

LDL PROCESSOR INPUT DATA

3/18/1995 10:58:39 LDL RUN 1

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* 3 *
* 4 *
* 5 *
* 6 *          $-----$
* 7 *          $EZ - DOE LOADS INPUT$
* 8 *          $-----$
* 9 *
* 10 *          $ GENERAL PROJECT DATA
* 11 * TITLE LINE-1 * EMC ENGINEERS INC. *
* 12 * LINE-2 *EZDOE - ELITE SOFTWARE DEVELOPMENT INC*
* 13 * LINE-3 * DENVER, CO 80227 *
* 14 *
* 15 * LINE-4 *BUILDING 10715, POST SAFETY/LEA *
* 16 * LINE-5 *MODEL WITH SETBACK,ECONOMIZER, & DDC * ..
* 17 *
* 18 * ABORT ERRORS ..
* 19 * DIAGNOSTIC WARNINGS ..
* 20 * LOADS-REPORT VERIFICATION=(LV-A,LV-B,LV-C)
* 21 * SUMMARY=(LS-A,LS-B,LS-C,LS-D,LS-E,LS-F,LS-K) ..
* 22 * BUILDING-LOCATION LATITUDE = 44.0
* 23 * ALTITUDE = 655.
* 24 * AZIMUTH = -130.
* 25 * TIME-ZONE = 5
* 26 * GROSS-AREA = 50591
* 27 * HOLIDAY = NO
* 28 * SHIELDING-COEF = 0.29
* 29 * X-REF = 0.0
* 30 * Y-REF = 0.0
* 31 * RUN-PERIOD JAN 1 1994 THRU DEC 31 1994 ..
* 32 *
* 33 *
* 34 *          $ SCHEDULES
* 35 *
* 36 * LIGHTS =DAY-SCHEDULE (1,2) (1.)
* 37 * (3,11) (0.5)
* 38 * (12,13) (0.6)
* 39 * (14,24) (1.) ..
* 40 *
* 41 * OCCUP =DAY-SCHEDULE (1,5) (0.)
* 42 * (6,10) (0.1,0.5,0.9,0.8,0.5)
* 43 * (11,14) (0.7,0.9,0.8,0.4)
* 44 * (15,16) (0.3)
* 45 * (17,18) (0.5,0.9)
* 46 * (19,20) (0.7,0.2)
* 47 * (21,24) (0.) ..
* 48 *
* 49 * APPLIANCE =DAY-SCHEDULE (1) (0.)
* 50 * (2,3) (0.7)
* 51 * (4,12) (0.02)
* 52 * (13,15) (0.6)
* 53 * (16,18) (0.02)
* 54 * (19,20) (0.7)
* 55 * (21,24) (0.8) ..
* 56 *
* 57 * CND_DAY =DAY-SCHEDULE (1,24) (1.) ..
* 58 *
* 59 * FULL_OFFD =DAY-SCHEDULE (1,24) (0.) ..
* 60 *
* 61 * appliance =DAY-SCHEDULE (1,5) (0.)
* 62 * (6,7) (0.4)
* 63 * (8,11) (0.6)
* 64 * (12,13) (0.8)
* 65 * (14,15) (0.5)
* 66 * (16,17) (0.8)
* 67 * (18,19) (0.6)
* 68 * (20,24) (0.) ..
* 69 *
* 70 * lights =DAY-SCHEDULE (1,5) (0.2)
* 71 * (6) (0.5)
* 72 * (7,17) (0.9)
* 73 * (18,19) (0.8,0.7)
* 74 * (20,24) (0.2) ..
* 75 *
* 76 * worship =DAY-SCHEDULE (1,6) (0.)
* 77 * (7,10) (0.2,0.7,0.8,0.5)
* 78 * (11,16) (0.2)
* 79 * (17,18) (0.1,0.3)
* 80 * (19,20) (0.5,0.2)
* 81 * (21,24) (0.) ..
* 82 *
* 83 * chapelwkdy =DAY-SCHEDULE (1,7) (0.)
* 84 * (8,18) (0.2)
* 85 * (19,20) (0.3)
* 86 * (21,24) (0.) ..
* 87 *
* 88 *
* 89 * PEOPLE =WEEK-SCHEDULE (ALL) OCCUP ..
* 90 *
* 91 * LIGHTS_WK =WEEK-SCHEDULE (ALL) lights ..
* 92 *
* 93 * APPLI_WK =WEEK-SCHEDULE (ALL) appliance ..
* 94 *
* 95 * CND_WK =WEEK-SCHEDULE (ALL) CND_DAY ..
* 96 *
* 97 * FULL_OFFW =WEEK-SCHEDULE (ALL) FULL_OFFD ..
* 98 *
* 99 * chapel =WEEK-SCHEDULE (WD) chapelwkdy
* 100 * (SAT) chapelwkdy
* 101 * (SUN) worship
* 102 * (HOL) worship ..

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* 103 *
* 104 *
* 105 * $ FULL ON SCHEDULE
* 106 * FULL_ON =SCHEDULE THRU DEC 31 PEOPLE ..
* 107 *
* 108 * $ LOADS OCCUPANCY SCHED
* 109 * OCCUPANCY =SCHEDULE THRU DEC 31 PEOPLE ..
* 110 *
* 111 * $ LIGHTING SCHEDULE
* 112 * LIGHTS_ON =SCHEDULE THRU DEC 31 LIGHTS_WK ..
* 113 *
* 114 * $ APPLIANCE SCHEDULE
* 115 * APPLI_ON =SCHEDULE THRU DEC 31 APPLI_WK ..
* 116 *
* 117 * $ COND VENTIL SCHED
* 118 * CND_SCHED =SCHEDULE THRU MAR 1 FULL_OFFW
* 119 * THRU NOV 30 CND_WK
* 120 * THRU DEC 31 FULL_OFFW ..
* 121 *
* 122 * $ LOADS OCCUPANCY SCHED
* 123 * Chapelschd =SCHEDULE THRU DEC 31 chapel ..
* 124 *
* 125 *
* 126 *
* 127 * $ CONSTRUCTION TYPES
* 128 *
* 129 *
* 130 *
* 131 *
* 132 * $ DOOR CONSTRUCTION
* 133 * DOORCON =CONSTRUCTION U-VALUE = 0.400 ..
* 134 * FLOOR =CONSTRUCTION U-VALUE = 0.100
* 135 * ABSORPTANCE = 1.000
* 136 * ROUGHNESS = 1 ..
* 137 * ROOFCON =CONSTRUCTION U-VALUE = 0.050 ..
* 138 * EXWALL =CONSTRUCTION U-VALUE = 0.200
* 139 * ABSORPTANCE = 0.750 ..
* 140 * INWALL =CONSTRUCTION U-VALUE = 0.500 ..
* 141 *
* 142 * GTYPE_1 =GLASS-TYPE SHADING-COEF = 0.400
* 143 * PANES = 1
* 144 * GLASS-CONDUCTANCE = 1.130 ..
* 145 * GTYPE_2 =GLASS-TYPE SHADING-COEF = 0.300
* 146 * PANES = 1
* 147 * GLASS-CONDUCTANCE = 0.790 ..
* 148 * GTYPE_3 =GLASS-TYPE SHADING-COEF = 0.400
* 149 * PANES = 1
* 150 * GLASS-CONDUCTANCE = 0.360 ..
* 151 *
* 152 *
* 153 *
* 154 *
* 155 * $ SPACE DESCRIPTION
* 156 *
* 157 * GROUNDFLOR =SPACE AREA = 14790.0 VOLUME = 133110.0
* 158 * AZIMUTH = 45 TEMPERATURE = (68.)
* 159 * ZONE-TYPE = CONDITIONED PEOPLE-SCHEDULE = FULL_ON
* 160 * NUMBER-OF-PEOPLE = 50.0 PEOPLE-HEAT-GAIN = 550.0
* 161 * LIGHTING-KW = 14.0 LIGHTING-SCHEDULE = FULL_ON
* 162 * EQUIP-SCHEDULE = FULL_ON EQUIPMENT-KW = 3.0
* 163 * INF-METHOD = AIR-CHANGE AIR-CHANGES/HR = 1.25
* 164 * INF-SCHEDULE = FULL_ON ..
* 165 *
* 166 * E-W HEIGHT = 9.0 WIDTH = 56.0 CONS = EXWALL
* 167 * AZIMUTH = 45 ..
* 168 *
* 169 * WINDOW HEIGHT = 5.0 WIDTH = 3.0 G-T = GTYPE_1
* 170 * MULTIPLIER = 5.0 ..
* 171 *
* 172 * DOOR HEIGHT = 8.0 WIDTH = 3.0 CONS = DOORCON ..
* 173 *
* 174 * E-W HEIGHT = 9.0 WIDTH = 72.0 CONS = EXWALL
* 175 * AZIMUTH = 135 ..
* 176 *
* 177 * WINDOW HEIGHT = 5.0 WIDTH = 3.0 G-T = GTYPE_1
* 178 * MULTIPLIER = 5.0 ..
* 179 *
* 180 * DOOR HEIGHT = 8.0 WIDTH = 3.0 CONS = DOORCON
* 181 * MULTIPLIER = 2.0 ..
* 182 *
* 183 * E-W HEIGHT = 9.0 WIDTH = 23.0 CONS = EXWALL
* 184 * AZIMUTH = 45 ..
* 185 *
* 186 * WINDOW HEIGHT = 5.0 WIDTH = 3.0 G-T = GTYPE_1
* 187 * MULTIPLIER = 3.0 ..
* 188 *
* 189 * E-W HEIGHT = 9.0 WIDTH = 48.0 CONS = EXWALL
* 190 * AZIMUTH = 135 ..
* 191 *
* 192 * WINDOW HEIGHT = 5.0 WIDTH = 3.0 G-T = GTYPE_1
* 193 * MULTIPLIER = 6.0 ..
* 194 *
* 195 * E-W HEIGHT = 9.0 WIDTH = 23.0 CONS = EXWALL
* 196 * AZIMUTH = 225 ..
* 197 *
* 198 * WINDOW HEIGHT = 5.0 WIDTH = 3.0 G-T = GTYPE_1
* 199 * MULTIPLIER = 3.0 ..
* 200 *
* 201 * E-W HEIGHT = 9.0 WIDTH = 18.0 CONS = EXWALL
* 202 * AZIMUTH = 135 ..
* 203 *
* 204 * E-W HEIGHT = 9.0 WIDTH = 55.0 CONS = EXWALL
* 205 * AZIMUTH = 225 ..
* 206 *
* 207 * WINDOW HEIGHT = 5.0 WIDTH = 3.0 G-T = GTYPE_1
* 208 * MULTIPLIER = 6.0 ..
* 209 *
* 210 * E-W HEIGHT = 9.0 WIDTH = 18.0 CONS = EXWALL

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* 211 *           AZIMUTH = 315  ..
* 212 *
* 213 *           WINDOW HEIGHT = 5.0  WIDTH = 3.0  G-T = GTYPE_1
* 214 *           MULTIPLIER = 2.0  ..
* 215 *
* 216 *           E-W      HEIGHT = 9.0  WIDTH = 133.0  CONS = EXWALL
* 217 *           AZIMUTH = 45  ..
* 218 *
* 219 *           WINDOW HEIGHT = 5.0  WIDTH = 3.0  G-T = GTYPE_1
* 220 *           MULTIPLIER = 13.0  ..
* 221 *
* 222 *           E-W      HEIGHT = 9.0  WIDTH = 48.0  CONS = EXWALL
* 223 *           AZIMUTH = 315  ..
* 224 *
* 225 *           DOOR     HEIGHT = 8.0  WIDTH = 3.0  CONS = DOORCON ..
* 226 *
* 227 *           E-W      HEIGHT = 9.0  WIDTH = 133.0  CONS = EXWALL
* 228 *           AZIMUTH = 45  ..
* 229 *
* 230 *           DOOR     HEIGHT = 8.0  WIDTH = 3.0  CONS = DOORCON
* 231 *           MULTIPLIER = 7.0  ..
* 232 *
* 233 *           U-W      HEIGHT = 121.6  WIDTH = 121.6  CONS = FLOOR
* 234 *           AZIMUTH = 45  ..
* 235 *
* 236 *           I-W      HEIGHT = 121.6  WIDTH = 121.6  CONS = INWALL
* 237 *           AZIMUTH = 45  NEXT-TO = SECONDFLOR  ..
* 238 *
* 239 *           E-W      HEIGHT = 9.0  WIDTH = 72.0  CONS = EXWALL
* 240 *           AZIMUTH = 315  ..
* 241 *
* 242 *           DOOR     HEIGHT = 8.0  WIDTH = 3.0  CONS = DOORCON
* 243 *           MULTIPLIER = 2.0  ..
* 244 *
* 245 *           WINDOW HEIGHT = 5.0  WIDTH = 3.0  G-T = GTYPE_1
* 246 *           MULTIPLIER = 8.0  ..
* 247 *
* 248 *           I-W      HEIGHT = 9.0  WIDTH = 10.0  CONS = INWALL
* 249 *           NEXT-TO = DISPATCH  ..
* 250 *
* 251 *           I-W      HEIGHT = 9.0  WIDTH = 37.0  CONS = INWALL
* 252 *           NEXT-TO = DISPATCH  ..
* 253 *
* 254 *           I-W      HEIGHT = 9.0  WIDTH = 10.0  CONS = INWALL
* 255 *           NEXT-TO = DISPATCH  ..
* 256 *
* 257 *           I-W      HEIGHT = 9.0  WIDTH = 37.0  CONS = INWALL
* 258 *           NEXT-TO = DISPATCH  ..
* 259 *
* 260 *
* 261 * SECONDFLOR =SPACE  AREA = 12020.0  VOLUME = 108180.0
* 262 *           AZIMUTH = 45  TEMPERATURE = (68.)
* 263 *           ZONE-TYPE = CONDITIONED  PEOPLE-SCHEDULE = FULL ON
* 264 *           NUMBER-OF-PEOPLE = 25.0  PEOPLE-HEAT-GAIN = 550.0
* 265 *           LIGHTING-KW = 14.0  LIGHTING-SCHEDULE = FULL ON
* 266 *           EQUIP-SCHEDULE = FULL ON  EQUIPMENT-KW = 3.0
* 267 *           INF-METHOD = AIR-CHANGE  AIR-CHANGES/HR = 1.0
* 268 *           INF-SCHEDULE = FULL_ON  ..
* 269 *
* 270 *           E-W      HEIGHT = 9.0  WIDTH = 56.0  CONS = EXWALL
* 271 *           AZIMUTH = 45  ..
* 272 *
* 273 *           WINDOW HEIGHT = 5.0  WIDTH = 3.0  G-T = GTYPE_1
* 274 *           MULTIPLIER = 6.0  ..
* 275 *
* 276 *           E-W      HEIGHT = 9.0  WIDTH = 72.0  CONS = EXWALL
* 277 *           AZIMUTH = 135  ..
* 278 *
* 279 *           WINDOW HEIGHT = 5.0  WIDTH = 3.0  G-T = GTYPE_1
* 280 *           MULTIPLIER = 7.0  ..
* 281 *
* 282 *           E-W      HEIGHT = 9.0  WIDTH = 23.0  CONS = EXWALL
* 283 *           AZIMUTH = 45  ..
* 284 *
* 285 *           WINDOW HEIGHT = 5.0  WIDTH = 3.0  G-T = GTYPE_1
* 286 *           MULTIPLIER = 3.0  ..
* 287 *
* 288 *           E-W      HEIGHT = 9.0  WIDTH = 48.0  CONS = EXWALL
* 289 *           AZIMUTH = 135  ..
* 290 *
* 291 *           WINDOW HEIGHT = 5.0  WIDTH = 3.0  G-T = GTYPE_1
* 292 *           MULTIPLIER = 6.0  ..
* 293 *
* 294 *           E-W      HEIGHT = 9.0  WIDTH = 23.0  CONS = EXWALL
* 295 *           AZIMUTH = 225  ..
* 296 *
* 297 *           E-W      HEIGHT = 9.0  WIDTH = 18.0  CONS = EXWALL
* 298 *           AZIMUTH = 135  ..
* 299 *
* 300 *           E-W      HEIGHT = 9.0  WIDTH = 55.0  CONS = EXWALL
* 301 *           AZIMUTH = 225  ..
* 302 *
* 303 *           WINDOW HEIGHT = 5.0  WIDTH = 3.0  G-T = GTYPE_1
* 304 *           MULTIPLIER = 6.0  ..
* 305 *
* 306 *           E-W      HEIGHT = 9.0  WIDTH = 18.0  CONS = EXWALL
* 307 *           AZIMUTH = 315  ..
* 308 *
* 309 *           WINDOW HEIGHT = 5.0  WIDTH = 3.0  G-T = GTYPE_1
* 310 *           MULTIPLIER = 2.0  ..
* 311 *
* 312 *           E-W      HEIGHT = 9.0  WIDTH = 21.0  CONS = EXWALL
* 313 *           AZIMUTH = 45  TILT = 0  ..
* 314 *
* 315 *           WINDOW HEIGHT = 5.0  WIDTH = 3.0  G-T = GTYPE_1
* 316 *           MULTIPLIER = 7.0  ..
* 317 *
* 318 *           E-W      HEIGHT = 9.0  WIDTH = 48.0  CONS = EXWALL

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* 319 *          AZIMUTH = 315  ..
* 320 *
* 321 *      E-W      HEIGHT = 9.0  WIDTH = 21.0  CONS = EXWALL
* 322 *          AZIMUTH = 45  ..
* 323 *
* 324 *      WINDOW  HEIGHT = 5.0  WIDTH = 3.0  G-T = GTYPE_1
* 325 *          MULTIPLIER = 6.0  ..
* 326 *
* 327 *      I-W      HEIGHT = 97.0  WIDTH = 97.0  CONS = INWALL
* 328 *          AZIMUTH = 45  NEXT-TO = GROUNDFLOR  ..
* 329 *
* 330 *      ROOF      HEIGHT = 97.0  WIDTH = 97.0  CONS = ROOFCON
* 331 *          AZIMUTH = 45  TILT = 0  ..
* 332 *
* 333 *      E-W      HEIGHT = 9.0  WIDTH = 72.0  CONS = EXWALL
* 334 *          AZIMUTH = 315  ..
* 335 *
* 336 *      WINDOW  HEIGHT = 5.0  WIDTH = 3.0  G-T = GTYPE_1
* 337 *          MULTIPLIER = 10.0  ..
* 338 *
* 339 *
* 340 *  DISPATCH  =SPACE  AREA = 370.0  VOLUME = 3400.0
* 341 *          AZIMUTH = 45  TEMPERATURE = (68.)
* 342 *          ZONE-TYPE = CONDITIONED  PEOPLE-SCHEDULE = FULL_ON
* 343 *          NUMBER-OF-PEOPLE = 5.0  PEOPLE-HEAT-GAIN = 550.0
* 344 *          LIGHTING-SCHEDULE = FULL_ON  EQUIP-SCHEDULE = FULL_ON
* 345 *          INF-METHOD = AIR-CHANGE  AIR-CHANGES/HR = 0.25
* 346 *          INF-SCHEDULE = FULL_ON  ..
* 347 *
* 348 *      I-W      HEIGHT = 9.0  WIDTH = 10.0  CONS = INWALL
* 349 *          NEXT-TO = GROUNDFLOR  ..
* 350 *
* 351 *      I-W      HEIGHT = 9.0  WIDTH = 37.0  CONS = INWALL
* 352 *          NEXT-TO = GROUNDFLOR  ..
* 353 *
* 354 *      I-W      HEIGHT = 9.0  WIDTH = 10.0  CONS = INWALL
* 355 *          NEXT-TO = GROUNDFLOR  ..
* 356 *
* 357 *      I-W      HEIGHT = 9.0  WIDTH = 37.0  CONS = INWALL
* 358 *          NEXT-TO = GROUNDFLOR  ..
* 359 *
* 360 *      I-W      HEIGHT = 10.0  WIDTH = 37.0  CONS = ROOFCON
* 361 *          NEXT-TO = SECONDFLOR  ..
* 362 *
* 363 *      U-W      HEIGHT = 10.0  WIDTH = 37.0  CONS = FLOOR  ..
* 364 *
* 365 *
* 366 *  END  ..
* 367 *  COMPUTE LOADS  ..
* 368 *
* 369 *  INPUT SYSTEMS  ..

```

SDL PROCESSOR INPUT DATA

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```

* 370 *
* 371 *
* 372 *
* 373 *          $-----$
* 374 *          $ E Z - D O E   S Y S T E M S   I N P U T $
* 375 *          $-----$
* 376 *
* 377 *          $ GENERAL PROJECT DATA
* 378 *
* 379 *          TITLE LINE-1 *      EMC      ENGINEERS      INC.      *
* 380 *          LINE-2 *EZDOE - ELITE SOFTWARE DEVELOPMENT INC*
* 381 *          LINE-3 *      DENVER,      CO      80227      *
* 382 *
* 383 *          LINE-4 *BUILDING 10715, POST SAFETY/LEA      *
* 384 *          LINE-5 *MODEL WITH SETBACK,ECONOMIZER, & DDC      * ..
* 385 *          ABORT      ERRORS      ..
* 386 *          DIAGNOSTIC      WARNINGS      ..
* 387 *          SYSTEMS-REPORT      VERIFICATION=(SV-A,SV-B)
* 388 *          SUMMARY=(SS-A,SS-B,SS-C,SS-D,SS-E,SS-F,SS-G,
* 389 *          SS-H,SS-I,SS-J,SS-K,SS-L,SS-M,SS-N,
* 390 *          SS-O)      ..
* 391 *
* 392 *          $ SCHEDULES
* 393 *
* 394 *          D_FULL      =DAY-SCHEDULE      (1,24) (1.) ..
* 395 *          D_OFF      =DAY-SCHEDULE      (1,24) (0.) ..
* 396 *          HEAT_68_D  =DAY-SCHEDULE      (1,24) (68.) ..
* 397 *          COOL_72_D  =DAY-SCHEDULE      (1,24) (78.) ..
* 398 *          FAN_WSB_D   =DAY-SCHEDULE      (1,6) (0.)
* 399 *          (7,17) (1.)
* 400 *          HT68_WSB_D =DAY-SCHEDULE      (1,6) (50.)
* 401 *          (7,17) (68.)
* 402 *          (18,24) (50.) ..
* 403 *          HEAT_50_D  =DAY-SCHEDULE      (1,24) (50.) ..
* 404 *          MOA_.11_D  =DAY-SCHEDULE      (1,7) (0.)
* 405 *          (8,17) (0,11)
* 406 *          (18,24) (0.) ..
* 407 *
* 408 *          W_FULL      =WEEK-SCHEDULE      (ALL) D_FULL ..
* 409 *
* 410 *          FULL_OFF_W =WEEK-SCHEDULE      (ALL) D_OFF ..
* 411 *
* 412 *          HEAT_68_W  =WEEK-SCHEDULE      (ALL) HEAT_68_D ..
* 413 *
* 414 *          COOL_72_W  =WEEK-SCHEDULE      (ALL) COOL_72_D ..
* 415 *
* 416 *          FAN_WSB_W  =WEEK-SCHEDULE      (WD) FAN_WSB_D
* 417 *          (SAT) D_OFF
* 418 *          (SUN) D_OFF
* 419 *          (HOL) FAN_WSB_D ..
* 420 *
* 421 *          HT68_WSB_W =WEEK-SCHEDULE      (WD) HT68_WSB_D
* 422 *          (SAT) HEAT_50_D
* 423 *          (SUN) HEAT_50_D
* 424 *          (HOL) HT68_WSB_D ..
* 425 *
* 426 *          MOA_.11_W  =WEEK-SCHEDULE      (ALL) MOA_.11_D ..
* 427 *
* 428 *
* 429 *          FULL_ON     =SCHEDULE THRU DEC 31 W_FULL ..
* 430 *
* 431 *          FULL_OFF    =SCHEDULE THRU DEC 31 FULL_OFF_W ..
* 432 *
* 433 *          HEAT_68     =SCHEDULE THRU DEC 31 HEAT_68_W ..
* 434 *
* 435 *          COOL_72     =SCHEDULE THRU DEC 31 COOL_72_W ..
* 436 *
* 437 *          FAN_WSB     =SCHEDULE THRU DEC 31 FAN_WSB_W ..
* 438 *
* 439 *          $ HEAT WITH SET BACK
* 440 *          HT_68_W_SB  =SCHEDULE THRU DEC 31 HT68_WSB_W ..
* 441 *
* 442 *          MOA_.11_FV  =SCHEDULE THRU DEC 31 MOA_.11_W ..
* 443 *
* 444 *
* 445 *
* 446 *          $ ZONE DESCRIPTION
* 447 *
* 448 *          GROUNDFLOR =ZONE      DESIGN-HEAT-T = 68.0 DESIGN-COOL-T = 75.0
* 449 *          HEAT-TEMP-SCH = HEAT_68 ZONE-TYPE = CONDITIONED
* 450 *          THERMOSTAT-TYPE = PROPORTIONAL THROTTLING-RANGE = 1.0
* 451 *          BASEBOARD-CTRL = THERMOSTATIC
* 452 *          BASEBOARD-RATING = -544000. ASSIGNED-CFM = 15990.
* 453 *          OUTSIDE-AIR-CFM = 4470. SIZING-OPTION = FROM-LOADS ..
* 454 *
* 455 *          SECONDFLOR =ZONE      DESIGN-HEAT-T = 68.0 DESIGN-COOL-T = 75.0
* 456 *          HEAT-TEMP-SCH = HT_68_W_SB ZONE-TYPE = CONDITIONED
* 457 *          THERMOSTAT-TYPE = PROPORTIONAL THROTTLING-RANGE = 1.0
* 458 *          BASEBOARD-CTRL = THERMOSTATIC
* 459 *          BASEBOARD-RATING = -495000. ASSIGNED-CFM = 9040.
* 460 *          OUTSIDE-AIR-CFM = 1000. SIZING-OPTION = FROM-LOADS ..
* 461 *
* 462 *          DISPATCH    =ZONE      DESIGN-HEAT-T = 68.0 DESIGN-COOL-T = 75.0
* 463 *          HEAT-TEMP-SCH = HEAT_68 COOL-TEMP-SCH = COOL_72
* 464 *          ZONE-TYPE = CONDITIONED
* 465 *          THERMOSTAT-TYPE = PROPORTIONAL ASSIGNED-CFM = 1250.
* 466 *          OUTSIDE-AIR-CFM = 250. SIZING-OPTION = FROM-LOADS ..
* 467 *
* 468 *
* 469 *          $ SYSTEM DESCRIPTION

```

```

* 470 *
* 471 * HVU1&2      =SYSTEM  SYSTEM-TYPE = HVSYS
* 472 *              MAX-SUPPLY-T = 130.0  HEATING-SCHEDULE = FULL_ON
* 473 *              MIN-HUMIDITY = 30.0  ECONO-LIMIT-T = 65.0
* 474 *              ECONO-LOW-LIMIT = 55.0  HEAT-CONTROL = COLDEST
* 475 *              SUPPLY-CFM = 15990.  RETURN-CFM = 11520.
* 476 *              RATED-CFM = 15990.  MIN-OUTSIDE-AIR = 0.27
* 477 *              SUPPLY-DELTA-T = 2.4  SUPPLY-KW = 0.00098
* 478 *              NIGHT-CYCLE-CTRL = STAY-OFF  NIGHT-VENT-DT = 0.0
* 479 *              HEATING-CAPACITY = -489000.  FURNACE-AUX = 0.
* 480 *              ZONE-NAMES = (GROUNDFLOR) ..
* 481 *
* 482 * HVU-3        =SYSTEM  SYSTEM-TYPE = HVSYS
* 483 *              MAX-SUPPLY-T = 130.0  HEATING-SCHEDULE = FULL_ON
* 484 *              MIN-HUMIDITY = 30.0  ECONO-LIMIT-T = 65.0
* 485 *              ECONO-LOW-LIMIT = 55.0  HEAT-CONTROL = COLDEST
* 486 *              SUPPLY-CFM = 9040.  RETURN-CFM = 8040.
* 487 *              RATED-CFM = 9040.  MIN-OUTSIDE-AIR = 0.11
* 488 *              MIN-AIR-SCH = MOA_11_FV  FAN-SCHEDULE = FAN_W_SB
* 489 *              SUPPLY-DELTA-T = 2.4  SUPPLY-KW = 0.00117
* 490 *              NIGHT-CYCLE-CTRL = CYCLE-ON-ANY  NIGHT-VENT-DT = 0.0
* 491 *              HEATING-CAPACITY = -207600.  FURNACE-AUX = 0.
* 492 *              ZONE-NAMES = (SECONDFLOR) ..
* 493 *
* 494 * ACU-1         =SYSTEM  SYSTEM-TYPE = PSZ
* 495 *              MAX-SUPPLY-T = 130.0  MIN-SUPPLY-T = 55.0
* 496 *              HEATING-SCHEDULE = FULL_ON
* 497 *              COOLING-SCHEDULE = FULL_ON  MIN-HUMIDITY = 30.0
* 498 *              ECONO-LIMIT-T = 65.0  ECONO-LOW-LIMIT = 55.0
* 499 *              SUPPLY-CFM = 1250.  RETURN-CFM = 1000.
* 500 *              RATED-CFM = 1250.  MIN-OUTSIDE-AIR = 0.2
* 501 *              SUPPLY-DELTA-T = 1.8  SUPPLY-KW = 0.00059
* 502 *              NIGHT-CYCLE-CTRL = STAY-OFF  NIGHT-VENT-DT = 0.0
* 503 *              COOLING-CAPACITY = 32200.  COOL-FT-MIN = 0.
* 504 *              HEATING-CAPACITY = -22100.  FURNACE-AUX = 0.
* 505 *              CRANKCASE-MAX-T = 0.  OUTSIDE-FAN-T = 45.
* 506 *              HEAT-SOURCE = HOT-WATER
* 507 *              ZONE-HEAT-SOURCE = HOT-WATER
* 508 *              BASEBOARD-SOURCE = HOT-WATER
* 509 *              ZONE-NAMES = (DISPATCH) ..
* 510 *
* 511 * END
* 512 * COMPUTE SYSTEMS ..
* 513 *
* 514 * INPUT PLANT ..

```



PDL PROCESSOR INPUT DATA

3/18/1995 10:58:39 PDL RUN 1

```

* 515 *
* 516 *
* 517 *
* 518 *      $-----$
* 519 *      $ E Z - D O E   P L A N T S   I N P U T $
* 520 *      $-----$
* 521 *
* 522 *      $ GENERAL PROJECT DATA
* 523 *
* 524 *      TITLE LINE-1 *      EMC      ENGINEERS      INC.      *
* 525 *      LINE-2 *EZDOE - ELITE SOFTWARE DEVELOPMENT INC*
* 526 *      LINE-3 *      DENVER,      CO      80227      *
* 527 *
* 528 *      LINE-4 *BUILDING 10715, POST SAFETY/LEA      *
* 529 *      LINE-5 *MODEL WITH SETBACK,ECONOMIZER, & DDC      * ..
* 530 *
* 531 *      ABORT      ERRORS      ..
* 532 *      DIAGNOSTIC      WARNINGS ..
* 533 *      PLANT-REPORT      VERIFICATION=(PV-A)
* 534 *      SUMMARY=(PS-A,PS-B,PS-D,PS-H,PS-I,BEPS) ..
* 535 *
* 536 *      $ SCHEDULES
* 537 *
* 538 *      DAY_ON      =DAY-SCHEDULE      (1,7) (0.)
* 539 *      (8,18) (1.)
* 540 *      (19,24) (0.) ..
* 541 *
* 542 *      FULL_ON      =WEEK-SCHEDULE      (ALL) DAY_ON ..
* 543 *
* 544 *
* 545 *      $ heating plant schedule
* 546 *      heating      =SCHEDULE THRU DEC 31 FULL_ON ..
* 547 *
* 548 *
* 549 *
* 550 *      $ EQUIPMENT DESCRIPTION
* 551 *
* 552 *      HX-1&2SPH      =PLANT-EQUIPMENT      TYPE = HTANK-STORAGE
* 553 *      SIZE = -1.8 ..
* 554 *
* 555 *      DHW      =PLANT-EQUIPMENT      TYPE = HTANK-STORAGE
* 556 *      SIZE = -0.1 ..
* 557 *
* 558 *      PLANT-PARAMETERS      MAKEUP-WTR-T = 50. STM-BOILER-HIR = 0.76
* 559 *      HW-BOILER-HIR = 1.27 CHILLER-CONTROL = STANDBY
* 560 *      OPEN-REC-COND-TYPE = AIR HERM-REC-COND-TYPE = AIR
* 561 *      COMP-TO-TWR-WTR = 2.77 CCIRC-HEAD = 100.0
* 562 *      HCIRC-HEAD = 40.0 ..
* 563 *
* 564 *
* 565 *      PART-LOAD-RATIO      TYPE = HW-BOILER
* 566 *      MIN-RATIO      = 0.2500 MAX-RATIO      = 1.0000
* 567 *      OPERATING-RATIO      = 1.0000 ELEC-INPUT-RATIO = 0.0220 ..
* 568 *
* 569 *      ENERGY-RESOURCE      RESOURCE = STEAM ..
* 570 *      ENERGY-RESOURCE      RESOURCE = ELECTRICITY ..
* 571 *      ENERGY-RESOURCE      RESOURCE = STEAM ..
* 572 *
* 573 *      ENERGY-STORAGE      HEAT-STORE-RATE = 2.75 HEAT-SUPPLY-RATE = 2.75
* 574 *      HTANK-BASE-T = 210.0 HTANK-T-RANGE = 15.6
* 575 *      HEAT-STORE-SCH = heating ..
* 576 *
* 577 *      HEAT-RECOVERY
* 578 *      SUPPLY-1 = (HTANK-STORAGE,HTANK-STORAGE)
* 579 *      DEMAND-1 = (PROCESS-HEAT,SPACE-HEAT) ..
* 580 *
* 581 *
* 582 *
* 583 *      END ..
* 584 *      COMPUTE PLANT ..
* 585 *      STOP ..

```

ENERGY TYPE IN SITE MBTU-	STEAM	ELECTRICITY	RECOVERED
CATEGORY OF USE			
SPACE HEAT	2,300.54	9.49	0.00
SPACE COOL	0.00	1.15	0.00
HVAC AUX	0.00	623.96	0.00
DOM HOT WTR	0.00	0.00	0.00
AUX SOLAR	0.00	0.00	0.00
LIGHTS	0.00	296.48	0.00
VERT TRANS	0.00	0.00	0.00
MISC EQUIP	0.00	63.54	0.00
	-----	-----	-----
TOTAL	2,300.54	994.63	0.00

TOTAL SITE ENERGY 3295.18 MBTU 65.1 KBTU/SQFT-YR GROSS-AREA 121.2 KBTU/SQFT-YR NET-AREA  
 TOTAL SOURCE ENERGY 6821.13 MBTU 134.8 KBTU/SQFT-YR GROSS-AREA 251.0 KBTU/SQFT-YR NET-AREA

PERCENT OF HOURS ANY SYSTEM ZONE OUTSIDE OF THROTTLING RANGE = 0.0  
 PERCENT OF HOURS ANY PLANT LOAD NOT SATISFIED = 0.0

NOTE ELECTRICITY AND/OR FUEL USED TO GENERATE ELECTRICITY IS APPORTIONED BASED  
 ON THE YEARLY DEMAND. ALL OTHER ENERGY TYPES ARE APPORTIONED HOURLY.

MO	UTILITY-	STEAM	ELECTRICITY
	TOTAL (MBTU)	495.997	86.121
JAN	PEAK (KBTU)	1714.907	205.550
	DY/HR	5/12	5/12
	TOTAL (MBTU)	368.878	77.833
FEB	PEAK (KBTU)	1222.039	204.397
	DY/HR	4/ 9	4/12
	TOTAL (MBTU)	361.850	86.171
MAR	PEAK (KBTU)	1090.635	205.002
	DY/HR	9/ 8	9/ 8
	TOTAL (MBTU)	180.568	81.829
APR	PEAK (KBTU)	724.324	203.111
	DY/HR	1/ 8	1/ 8
	TOTAL (MBTU)	91.632	83.802
MAY	PEAK (KBTU)	663.354	202.595
	DY/HR	16/ 8	16/ 8
	TOTAL (MBTU)	14.513	80.277
JUN	PEAK (KBTU)	219.668	200.781
	DY/HR	8/ 5	22/ 8
	TOTAL (MBTU)	6.273	82.412
JUL	PEAK (KBTU)	142.368	202.716
	DY/HR	25/ 5	18/12
	TOTAL (MBTU)	10.143	82.921
AUG	PEAK (KBTU)	434.112	201.216
	DY/HR	6/24	10/ 8
	TOTAL (MBTU)	44.736	81.093
SEP	PEAK (KBTU)	353.114	204.297
	DY/HR	23/ 8	5/ 8
	TOTAL (MBTU)	119.320	83.830
OCT	PEAK (KBTU)	628.141	203.037
	DY/HR	28/ 8	26/12
	TOTAL (MBTU)	229.116	82.347
NOV	PEAK (KBTU)	824.771	203.519
	DY/HR	28/ 8	29/ 8
	TOTAL (MBTU)	377.513	86.005
DEC	PEAK (KBTU)	1185.956	204.819
	DY/HR	23/ 8	28/ 8
	ONE YEAR	2300.537	994.640
	USE/PEAK	1714.907	205.550

**COMPUTER SIMULATIONS**

BUILDING 10730

**COMPUTER SIMULATIONS**  
BUILDING 10730

BASE RUN

# LDL PROCESSOR INPUT DATA

3/18/1995 11:124 LDL RUN 1

```

* 3 *
* 4 *
* 5 *      $-----$
* 6 *      $EZ-DOE LOADS INPUT$
* 7 *      $-----$
* 8 *
* 9 *      $ GENERAL PROJECT DATA
* 10 *
* 11 * TITLE LINE-1 * EMC ENGINEERS INC. *
* 12 * LINE-2 *EZDOE - ELITE SOFTWARE DEVELOPMENT INC*
* 13 * LINE-3 * DENVER, CO 80227 *
* 14 *
* 15 * LINE-4 *BLDG 10730 EXCHANGE MAIN RETAIL AND *
* 16 * LINE-5 *CLOTHING SALES STORE - BASE MODEL *..
* 17 *
* 18 * ABORT      ERRORS ..
* 19 * DIAGNOSTIC  WARNINGS ..
* 20 * BUILDING-LOCATION X-REF = 0.0
* 21 *           Y-REF = 0.0 ..
* 22 * RUN-PERIOD   JAN 1 1994 THRU DEC 31 1994 ..
* 23 *
* 24 *
* 25 *           $ SCHEDULES
* 26 *
* 27 * FULL_OFF_D =DAY-SCHEDULE (1,24) (0.) ..
* 28 *
* 29 * PEOPLE_D =DAY-SCHEDULE (1,6) (0.)
* 30 *           (7,9) (0.1,0.2,0.4)
* 31 *           (10,14) (0.7)
* 32 *           (15,18) (0.9)
* 33 *           (19,20) (1.)
* 34 *           (21,22) (0.2)
* 35 *           (23,24) (0.1) ..
* 36 *
* 37 * LIGHT_ON_D =DAY-SCHEDULE (1,2) (0.2)
* 38 *           (3,6) (0.1)
* 39 *           (7) (0.2)
* 40 *           (8,9) (0.3)
* 41 *           (10,17) (0.9)
* 42 *           (18,19) (0.6)
* 43 *           (20) (0.5)
* 44 *           (21,22) (0.4)
* 45 *           (23,24) (0.3,0.2) ..

```

\* 46 \*  
 \* 47 \* FULL\_ON\_D =DAY-SCHEDULE (1,24) (1.) ..  
 \* 48 \*  
 \* 49 \*  
 \* 50 \* FULL\_OFF\_W =WEEK-SCHEDULE (ALL) FULL\_OFF\_D ..  
 \* 51 \*  
 \* 52 \* PEOPLE\_W =WEEK-SCHEDULE (ALL) PEOPLE\_D ..  
 \* 53 \*  
 \* 54 \* LIGHT\_ON\_W =WEEK-SCHEDULE (ALL) LIGHT\_ON\_D ..  
 \* 55 \*  
 \* 56 \* FULL\_ON\_W =WEEK-SCHEDULE (ALL) FULL\_ON\_D ..  
 \* 57 \*  
 \* 58 \*  
 \* 59 \* FULL\_ON =SCHEDULE THRU DEC 31 FULL\_ON\_W ..  
 \* 60 \*  
 \* 61 \* FULL\_OFF =SCHEDULE THRU DEC 31 FULL\_OFF\_W ..  
 \* 62 \*  
 \* 63 \* \$ OCCUPANCY SCHEDULE  
 \* 64 \* PEOPLE\_Y =SCHEDULE THRU DEC 31 PEOPLE\_W ..  
 \* 65 \*  
 \* 66 \* \$ LIGHTING SCHEDULE  
 \* 67 \* LIGHT\_ON\_Y =SCHEDULE THRU DEC 31 LIGHT\_ON\_W ..  
 \* 68 \*  
 \* 69 \*  
 \* 70 \*  
 \* 71 \*           \$ CONSTRUCTION TYPES  
 \* 72 \*  
 \* 73 \*  
 \* 74 \*  
 \* 75 \* FLOORCON =CONSTRUCTION U-VALUE = 0.100 ..  
 \* 76 \* ROOF\_CON =CONSTRUCTION U-VALUE = 0.050 ..  
 \* 77 \* WALL\_CON =CONSTRUCTION U-VALUE = 0.200 ..  
 \* 78 \* DOOR\_CON =CONSTRUCTION U-VALUE = 1.000 ..  
 \* 79 \* INWALL =CONSTRUCTION U-VALUE = 20.000 ..  
 \* 80 \*  
 \* 81 \* G\_TYPE1 =GLASS-TYPE GLASS-TYPE-CODE = 1  
 \* 82 \*           PANES = 1  
 \* 83 \*           GLASS-CONDUCTANCE = 1.130 ..  
 \* 84 \*  
 \* 85 \*  
 \* 86 \*  
 \* 87 \*  
 \* 88 \*           \$ SPACE DESCRIPTION  
 \* 89 \*  
 \* 90 \* RETAIL\_SLS =SPACE AREA = 28176.0 VOLUME = 228112.0  
 \* 91 \*           AZIMUTH = 240 ZONE-TYPE = CONDITIONED  
 \* 92 \*           PEOPLE-SCHEDULE = PEOPLE\_Y NUMBER-OF-PEOPLE = 200.0  
 \* 93 \*           PEOPLE-HEAT-GAIN = 550.0  
 \* 94 \*           LIGHTING-TYPE = REC-FLUOR-RV LIGHTING-W/SQFT = 1.35  
 \* 95 \*           LIGHTING-SCHEDULE = LIGHT\_ON\_Y

\* 96 \*           INF-METHOD = AIR-CHANGE AIR-CHANGES/HR = 0.5  
 \* 97 \*           INF-SCHEDULE = FULL\_ON ..  
 \* 98 \*  
 \* 99 \*       U-W   HEIGHT = 127.0 WIDTH = 222.0 CONS = FLOORCON  
 \* 100 \*           AZIMUTH = 240 ..  
 \* 101 \*  
 \* 102 \*       ROOF   HEIGHT = 127.0 WIDTH = 222.0 CONS = ROOF\_CON  
 \* 103 \*           AZIMUTH = 240 TILT = 0 ..  
 \* 104 \*  
 \* 105 \*       E-W   HEIGHT = 12.0 WIDTH = 104.0 CONS = WALL\_CON  
 \* 106 \*           AZIMUTH = 150 ..  
 \* 107 \*  
 \* 108 \*       DOOR   HEIGHT = 7.5 WIDTH = 3.0 CONS = DOOR\_CON  
 \* 109 \*           MULTIPLIER = 2.0 ..  
 \* 110 \*  
 \* 111 \*       E-W   HEIGHT = 12.0 WIDTH = 52.0 CONS = WALL\_CON  
 \* 112 \*           AZIMUTH = 60 ..  
 \* 113 \*  
 \* 114 \*       E-W   HEIGHT = 12.0 WIDTH = 127.0 CONS = WALL\_CON  
 \* 115 \*           AZIMUTH = 330 ..  
 \* 116 \*  
 \* 117 \*       DOOR   HEIGHT = 7.5 WIDTH = 3.0 CONS = DOOR\_CON ..  
 \* 118 \*  
 \* 119 \*       I-W   HEIGHT = 10.0 WIDTH = 20.0 CONS = INWALL  
 \* 120 \*           AZIMUTH = 240 NEXT-TO = MALL ..  
 \* 121 \*  
 \* 122 \*  
 \* 123 \* MPA       =SPACE   AREA = 13803.0 VOLUME = 165636.0  
 \* 124 \*           AZIMUTH = 240 ZONE-TYPE = CONDITIONED  
 \* 125 \*           PEOPLE-SCHEDULE = PEOPLE\_Y NUMBER-OF-PEOPLE = 40.0  
 \* 126 \*           PEOPLE-HEAT-GAIN = 550.0  
 \* 127 \*           LIGHTING-TYPE = REC-FLUOR-RV LIGHTING-W/SQFT = 1.35  
 \* 128 \*           LIGHTING-SCHEDULE = LIGHT\_ON\_Y  
 \* 129 \*           INF-METHOD = AIR-CHANGE AIR-CHANGES/HR = 0.5  
 \* 130 \*           INF-SCHEDULE = FULL\_ON ..  
 \* 131 \*  
 \* 132 \*       U-W   HEIGHT = 85.0 WIDTH = 163.0 CONS = FLOORCON  
 \* 133 \*           AZIMUTH = 240 ..  
 \* 134 \*  
 \* 135 \*       ROOF   HEIGHT = 85.0 WIDTH = 163.0 CONS = ROOF\_CON  
 \* 136 \*           AZIMUTH = 240 TILT = 0 ..  
 \* 137 \*  
 \* 138 \*       E-W   HEIGHT = 12.0 WIDTH = 64.0 CONS = WALL\_CON  
 \* 139 \*           AZIMUTH = 150 ..  
 \* 140 \*  
 \* 141 \*       DOOR   HEIGHT = 7.5 WIDTH = 3.0 CONS = DOOR\_CON  
 \* 142 \*           MULTIPLIER = 2.0 ..  
 \* 143 \*  
 \* 144 \*       E-W   HEIGHT = 12.0 WIDTH = 163.0 CONS = WALL\_CON  
 \* 145 \*           AZIMUTH = 240 ..



\* 146 \*  
 \* 147 \* DOOR HEIGHT = 7.5 WIDTH = 3.0 CONS = DOOR\_CON ..  
 \* 148 \*  
 \* 149 \*  
 \* 150 \* ADMIN =SPACE AREA = 4640.0 VOLUME = 46400.0  
 \* 151 \* AZIMUTH = 240 ZONE-TYPE = CONDITIONED  
 \* 152 \* PEOPLE-SCHEDULE = PEOPLE\_Y NUMBER-OF-PEOPLE = 100.0  
 \* 153 \* PEOPLE-HEAT-GAIN = 550.0  
 \* 154 \* LIGHTING-TYPE = REC-FLUOR-RV LIGHTING-W/SQFT = 1.35  
 \* 155 \* LIGHTING-SCHEDULE = LIGHT\_ON\_Y  
 \* 156 \* INF-METHOD = AIR-CHANGE AIR-CHANGES/HR = 0.5  
 \* 157 \* INF-SCHEDULE = FULL\_ON ..  
 \* 158 \*  
 \* 159 \* U-W HEIGHT = 64.0 WIDTH = 73.0 CONS = FLOORCON  
 \* 160 \* AZIMUTH = 240 ..  
 \* 161 \*  
 \* 162 \* ROOF HEIGHT = 64.0 WIDTH = 73.0 CONS = ROOF\_CON  
 \* 163 \* AZIMUTH = 240 TILT = 0 ..  
 \* 164 \*  
 \* 165 \* E-W HEIGHT = 10.0 WIDTH = 64.0 CONS = WALL\_CON  
 \* 166 \* AZIMUTH = 330 ..  
 \* 167 \*  
 \* 168 \* DOOR HEIGHT = 7.5 WIDTH = 3.0 CONS = DOOR\_CON ..  
 \* 169 \*  
 \* 170 \* I-W HEIGHT = 10.0 WIDTH = 10.0 CONS = INWALL  
 \* 171 \* AZIMUTH = 240 NEXT-TO = MCSS\_SALES ..  
 \* 172 \*  
 \* 173 \*  
 \* 174 \* FAST\_FOOD =SPACE AREA = 4860.0 VOLUME = 58320.0  
 \* 175 \* AZIMUTH = 240 ZONE-TYPE = CONDITIONED  
 \* 176 \* PEOPLE-SCHEDULE = PEOPLE\_Y NUMBER-OF-PEOPLE = 100.0  
 \* 177 \* PEOPLE-HEAT-GAIN = 550.0  
 \* 178 \* LIGHTING-TYPE = REC-FLUOR-RV LIGHTING-W/SQFT = 1.35  
 \* 179 \* LIGHTING-SCHEDULE = LIGHT\_ON\_Y  
 \* 180 \* EQUIP-SCHEDULE = FULL\_ON EQUIPMENT-KW = 15.54  
 \* 181 \* EQUIP-SENSIBLE = 0.0 SOURCE-SCHEDULE = FULL\_ON  
 \* 182 \* SOURCE-TYPE = GAS SOURCE-BTU/HR = 976107.0  
 \* 183 \* SOURCE-SENSIBLE = 0.1 INF-METHOD = AIR-CHANGE  
 \* 184 \* AIR-CHANGES/HR = 0.5 INF-SCHEDULE = FULL\_ON ..  
 \* 185 \*  
 \* 186 \* U-W HEIGHT = 61.0 WIDTH = 80.0 CONS = FLOORCON  
 \* 187 \* AZIMUTH = 240 ..  
 \* 188 \*  
 \* 189 \* ROOF HEIGHT = 61.0 WIDTH = 80.0 CONS = ROOF\_CON  
 \* 190 \* AZIMUTH = 240 TILT = 0 ..  
 \* 191 \*  
 \* 192 \* E-W HEIGHT = 10.0 WIDTH = 62.0 CONS = WALL\_CON  
 \* 193 \* AZIMUTH = 60 ..  
 \* 194 \*  
 \* 195 \* WINDOW HEIGHT = 6.0 WIDTH = 4.0 G-T = G\_TYPE1

\* 196 \*           MULTIPLIER = 11.0 ..  
 \* 197 \*  
 \* 198 \*       E-W   HEIGHT = 10.0 WIDTH = 29.0 CONS = WALL\_CON  
 \* 199 \*           AZIMUTH = 105 ..  
 \* 200 \*  
 \* 201 \*       DOOR   HEIGHT = 7.5 WIDTH = 3.0 CONS = DOOR\_CON ..  
 \* 202 \*  
 \* 203 \*       E-W   HEIGHT = 10.0 WIDTH = 45.0 CONS = WALL\_CON  
 \* 204 \*           AZIMUTH = 150 ..  
 \* 205 \*  
 \* 206 \*       DOOR   HEIGHT = 7.5 WIDTH = 3.0 CONS = DOOR\_CON  
 \* 207 \*           MULTIPLIER = 2.0 ..  
 \* 208 \*  
 \* 209 \*  
 \* 210 \* MALL   =SPACE   AREA = 7916.0 VOLUME = 79160.0  
 \* 211 \*           AZIMUTH = 240 ZONE-TYPE = CONDITIONED  
 \* 212 \*           PEOPLE-SCHEDULE = PEOPLE\_Y NUMBER-OF-PEOPLE = 100.0  
 \* 213 \*           PEOPLE-HEAT-GAIN = 550.0  
 \* 214 \*           LIGHTING-TYPE = REC-FLUOR-RV LIGHTING-W/SQFT = 1.35  
 \* 215 \*           LIGHTING-SCHEDULE = LIGHT\_ON\_Y  
 \* 216 \*           INF-METHOD = AIR-CHANGE AIR-CHANGES/HR = 0.75  
 \* 217 \*           INF-SCHEDULE = FULL\_ON ..  
 \* 218 \*  
 \* 219 \*       U-W   HEIGHT = 50.0 WIDTH = 158.0 CONS = FLOORCON  
 \* 220 \*           AZIMUTH = 240 ..  
 \* 221 \*  
 \* 222 \*       ROOF   HEIGHT = 50.0 WIDTH = 158.0 CONS = ROOF\_CON  
 \* 223 \*           AZIMUTH = 240 TILT = 0 ..  
 \* 224 \*  
 \* 225 \*       E-W   HEIGHT = 10.0 WIDTH = 100.0 CONS = WALL\_CON  
 \* 226 \*           AZIMUTH = 60 ..  
 \* 227 \*  
 \* 228 \*       E-W   HEIGHT = 10.0 WIDTH = 90.0 CONS = WALL\_CON  
 \* 229 \*           AZIMUTH = 105 ..  
 \* 230 \*  
 \* 231 \*       DOOR   HEIGHT = 7.5 WIDTH = 3.0 CONS = DOOR\_CON  
 \* 232 \*           MULTIPLIER = 2.0 ..  
 \* 233 \*  
 \* 234 \*  
 \* 235 \* BEAUTY   =SPACE   AREA = 1146.0 VOLUME = 11460.0  
 \* 236 \*           AZIMUTH = 240 ZONE-TYPE = CONDITIONED  
 \* 237 \*           PEOPLE-SCHEDULE = PEOPLE\_Y NUMBER-OF-PEOPLE = 20.0  
 \* 238 \*           PEOPLE-HEAT-GAIN = 550.0  
 \* 239 \*           LIGHTING-TYPE = REC-FLUOR-RV LIGHTING-W/SQFT = 1.35  
 \* 240 \*           LIGHTING-SCHEDULE = LIGHT\_ON\_Y  
 \* 241 \*           INF-METHOD = AIR-CHANGE AIR-CHANGES/HR = 0.5  
 \* 242 \*           INF-SCHEDULE = FULL\_ON ..  
 \* 243 \*  
 \* 244 \*       U-W   HEIGHT = 23.0 WIDTH = 50.0 CONS = FLOORCON  
 \* 245 \*           AZIMUTH = 240 ..

\* 246 \*  
 \* 247 \* ROOF HEIGHT = 23.0 WIDTH = 50.0 CONS = ROOF\_CON  
 \* 248 \* AZIMUTH = 240 TILT = 0 ..  
 \* 249 \*  
 \* 250 \* E-W HEIGHT = 10.0 WIDTH = 30.0 CONS = WALL\_CON  
 \* 251 \* AZIMUTH = 60 ..  
 \* 252 \*  
 \* 253 \* E-W HEIGHT = 10.0 WIDTH = 20.0 CONS = WALL\_CON  
 \* 254 \* AZIMUTH = 0 ..  
 \* 255 \*  
 \* 256 \*  
 \* 257 \* BARBER =SPACE AREA = 595.0 VOLUME = 5950.0  
 \* 258 \* AZIMUTH = 240 ZONE-TYPE = CONDITIONED  
 \* 259 \* PEOPLE-SCHEDULE = PEOPLE\_Y NUMBER-OF-PEOPLE = 15.0  
 \* 260 \* PEOPLE-HEAT-GAIN = 550.0  
 \* 261 \* LIGHTING-TYPE = REC-FLUOR-RV LIGHTING-W/SQFT = 1.35  
 \* 262 \* LIGHTING-SCHEDULE = LIGHT\_ON\_Y  
 \* 263 \* INF-METHOD = AIR-CHANGE AIR-CHANGES/HR = 0.5  
 \* 264 \* INF-SCHEDULE = FULL\_ON ..  
 \* 265 \*  
 \* 266 \* U-W HEIGHT = 19.0 WIDTH = 32.0 CONS = FLOORCON  
 \* 267 \* AZIMUTH = 240 ..  
 \* 268 \*  
 \* 269 \* ROOF HEIGHT = 19.0 WIDTH = 32.0 CONS = ROOF\_CON  
 \* 270 \* AZIMUTH = 240 TILT = 0 ..  
 \* 271 \*  
 \* 272 \* E-W HEIGHT = 10.0 WIDTH = 32.0 CONS = WALL\_CON  
 \* 273 \* AZIMUTH = 105 ..  
 \* 274 \*  
 \* 275 \* I-W HEIGHT = 10.0 WIDTH = 8.0 CONS = INWALL  
 \* 276 \* AZIMUTH = 105 NEXT-TO = MALL ..  
 \* 277 \*  
 \* 278 \*  
 \* 279 \* MCSS\_SALES =SPACE AREA = 7125.0 VOLUME = 85500.0  
 \* 280 \* AZIMUTH = 285 ZONE-TYPE = CONDITIONED  
 \* 281 \* PEOPLE-SCHEDULE = PEOPLE\_Y NUMBER-OF-PEOPLE = 50.0  
 \* 282 \* PEOPLE-HEAT-GAIN = 550.0  
 \* 283 \* LIGHTING-TYPE = REC-FLUOR-RV LIGHTING-W/SQFT = 1.35  
 \* 284 \* LIGHTING-SCHEDULE = LIGHT\_ON\_Y  
 \* 285 \* INF-METHOD = AIR-CHANGE AIR-CHANGES/HR = 0.5  
 \* 286 \* INF-SCHEDULE = FULL\_ON ..  
 \* 287 \*  
 \* 288 \* U-W HEIGHT = 143.0 WIDTH = 50.0 CONS = FLOORCON  
 \* 289 \* AZIMUTH = 285 ..  
 \* 290 \*  
 \* 291 \* ROOF HEIGHT = 143.0 WIDTH = 50.0 CONS = ROOF\_CON  
 \* 292 \* AZIMUTH = 285 TILT = 0 ..  
 \* 293 \*  
 \* 294 \* E-W HEIGHT = 12.0 WIDTH = 100.0 CONS = WALL\_CON  
 \* 295 \* AZIMUTH = 195 ..

\* 296 \*  
 \* 297 \* E-W HEIGHT = 12.0 WIDTH = 25.0 CONS = WALL\_CON  
 \* 298 \* AZIMUTH = 285 ..  
 \* 299 \*  
 \* 300 \* DOOR HEIGHT = 7.5 WIDTH = 3.0 CONS = DOOR\_CON  
 \* 301 \* MULTIPLIER = 3.0 ..  
 \* 302 \*  
 \* 303 \*  
 \* 304 \* MCSS\_MPAQ =SPACE AREA = 7125.0 VOLUME = 85500.0  
 \* 305 \* AZIMUTH = 285 ZONE-TYPE = CONDITIONED  
 \* 306 \* PEOPLE-SCHEDULE = PEOPLE\_Y NUMBER-OF-PEOPLE = 50.0  
 \* 307 \* PEOPLE-HEAT-GAIN = 550.0  
 \* 308 \* LIGHTING-TYPE = REC-FLUOR-RV LIGHTING-W/SQFT = 1.35  
 \* 309 \* LIGHTING-SCHEDULE = LIGHT\_ON\_Y  
 \* 310 \* INF-METHOD = AIR-CHANGE AIR-CHANGES/HR = 0.5  
 \* 311 \* INF-SCHEDULE = FULL\_ON ..  
 \* 312 \*  
 \* 313 \* U-W HEIGHT = 143.0 WIDTH = 50.0 CONS = FLOORCON  
 \* 314 \* AZIMUTH = 285 ..  
 \* 315 \*  
 \* 316 \* ROOF HEIGHT = 143.0 WIDTH = 50.0 CONS = ROOF\_CON  
 \* 317 \* AZIMUTH = 285 TILT = 0 ..  
 \* 318 \*  
 \* 319 \* E-W HEIGHT = 12.0 WIDTH = 125.0 CONS = WALL\_CON  
 \* 320 \* AZIMUTH = 285 ..  
 \* 321 \*  
 \* 322 \* DOOR HEIGHT = 7.5 WIDTH = 3.0 CONS = DOOR\_CON  
 \* 323 \* MULTIPLIER = 3.0 ..  
 \* 324 \*  
 \* 325 \* IMAG\_WALL =I-W HEIGHT = 12.0 WIDTH = 1000.0 CONS = INWALL  
 \* 326 \* AZIMUTH = 285 NEXT-TO = MCSS\_SALES ..  
 \* 327 \*  
 \* 328 \*  
 \* 329 \* GARDEN\_SLS =SPACE AREA = 2184.0 VOLUME = 26208.0  
 \* 330 \* AZIMUTH = 240 ZONE-TYPE = CONDITIONED  
 \* 331 \* PEOPLE-SCHEDULE = PEOPLE\_Y NUMBER-OF-PEOPLE = 40.0  
 \* 332 \* PEOPLE-HEAT-GAIN = 550.0  
 \* 333 \* LIGHTING-TYPE = REC-FLUOR-RV LIGHTING-W/SQFT = 1.35  
 \* 334 \* LIGHTING-SCHEDULE = LIGHT\_ON\_Y  
 \* 335 \* INF-METHOD = AIR-CHANGE AIR-CHANGES/HR = 0.5  
 \* 336 \* INF-SCHEDULE = FULL\_ON ..  
 \* 337 \*  
 \* 338 \* U-W HEIGHT = 57.0 WIDTH = 39.0 CONS = FLOORCON  
 \* 339 \* AZIMUTH = 240 ..  
 \* 340 \*  
 \* 341 \* ROOF HEIGHT = 57.0 WIDTH = 39.0 CONS = ROOF\_CON  
 \* 342 \* AZIMUTH = 240 TILT = 0 ..  
 \* 343 \*  
 \* 344 \* E-W HEIGHT = 12.0 WIDTH = 39.0 CONS = WALL\_CON  
 \* 345 \* AZIMUTH = 60 ..

```

* 346 *
* 347 *      E-W  HEIGHT = 12.0 WIDTH = 57.0 CONS = WALL_CON
* 348 *          AZIMUTH = 150  ..
* 349 *
* 350 *      E-W  HEIGHT = 12.0 WIDTH = 39.0 CONS = WALL_CON
* 351 *          AZIMUTH = 240  ..
* 352 *
* 353 *      DOOR HEIGHT = 7.5 WIDTH = 3.0 CONS = DOOR_CON
* 354 *          MULTIPLIER = 2.0  ..
* 355 *
* 356 *      I-W  HEIGHT = 12.0 WIDTH = 10.0 CONS = INWALL
* 357 *          AZIMUTH = 150 NEXT-TO = MPA  ..
* 358 *
* 359 *
* 360 * END  ..
* 361 * COMPUTE LOADS  ..
* 362 *
* 363 * INPUT SYSTEMS  ..

```

#### SDL PROCESSOR INPUT DATA

3/18/1995 11:1:24 SDL RUN 1

```

* 364 *
* 365 *
* 366 *      $-----$
* 367 *      $EZ-DOE SYSTEMS INPUT$
* 368 *      $-----$
* 369 *
* 370 *          $ GENERAL PROJECT DATA
* 371 *
* 372 * TITLE LINE-1 * EMC ENGINEERS INC. *
* 373 * LINE-2 *EZDOE - ELITE SOFTWARE DEVELOPMENT INC*
* 374 * LINE-3 * DENVER, CO 80227 *
* 375 *
* 376 * LINE-4 *BLDG 10730 EXCHANGE MAIN RETAIL AND *
* 377 * LINE-5 *CLOTHING SALES STORE - BASE MODEL *..
* 378 * ABORT      ERRORS  ..
* 379 * DIAGNOSTIC  WARNINGS ..
* 380 * SYSTEMS-REPORT SUMMARY=(SS-A,SS-C,SS-K,SS-O) ..
* 381 *
* 382 *          $ SCHEDULES
* 383 *
* 384 * FULL_ON_D =DAY-SCHEDULE (1,24) (1.) ..
* 385 * FULL_OFF_D =DAY-SCHEDULE (1,24) (0.) ..
* 386 * HEAT_70_D =DAY-SCHEDULE (1,24) (73.) ..
* 387 * COOL_75_D =DAY-SCHEDULE (1,5) (85.)

```

\* 388 \* (6,21) (75.)  
 \* 389 \* (22,24) (85.) ..  
 \* 390 \* FAN\_ON\_D =DAY-SCHEDULE (1,24) (1.) ..  
 \* 391 \*  
 \* 392 \* FULL\_ON\_W =WEEK-SCHEDULE (ALL) FULL\_ON\_D ..  
 \* 393 \*  
 \* 394 \* FULL\_OFF\_W =WEEK-SCHEDULE (ALL) FULL\_OFF\_D ..  
 \* 395 \*  
 \* 396 \* HEAT\_70\_W =WEEK-SCHEDULE (ALL) HEAT\_70\_D ..  
 \* 397 \*  
 \* 398 \* COOL\_75\_W =WEEK-SCHEDULE (ALL) COOL\_75\_D ..  
 \* 399 \*  
 \* 400 \* FAN\_ON\_W =WEEK-SCHEDULE (ALL) FAN\_ON\_D ..  
 \* 401 \*  
 \* 402 \*  
 \* 403 \* FULL\_ON =SCHEDULE THRU DEC 31 FULL\_ON\_W ..  
 \* 404 \*  
 \* 405 \* FULL\_OFF =SCHEDULE THRU DEC 31 FULL\_OFF\_W ..  
 \* 406 \*  
 \* 407 \* \$ HEATING SCHEDULE  
 \* 408 \* HEAT\_73\_SC =SCHEDULE THRU DEC 31 HEAT\_70\_W ..  
 \* 409 \*  
 \* 410 \* \$ COOLING SCHEDULE  
 \* 411 \* COOL\_75\_SC =SCHEDULE THRU DEC 31 COOL\_75\_W ..  
 \* 412 \*  
 \* 413 \* \$ FAN SCHEDULE  
 \* 414 \* FAN\_ON\_SCD =SCHEDULE THRU DEC 31 FAN\_ON\_W ..  
 \* 415 \*  
 \* 416 \*  
 \* 417 \*  
 \* 418 \* \$ ZONE DESCRIPTION  
 \* 419 \*  
 \* 420 \* RETAIL\_SLS =ZONE DESIGN-HEAT-T = 70.0 DESIGN-COOL-T = 75.0  
 \* 421 \* HEAT-TEMP-SCH = HEAT\_73\_SC COOL-TEMP-SCH = COOL\_75\_SC  
 \* 422 \* ZONE-TYPE = CONDITIONED  
 \* 423 \* THERMOSTAT-TYPE = PROPORTIONAL THROTTLING-RANGE = 1.0  
 \* 424 \* BASEBOARD-CTRL = THERMOSTATIC ASSIGNED-CFM = 26700.  
 \* 425 \* OUTSIDE-AIR-CFM = 3290. SIZING-OPTION = FROM-LOADS  
 \* 426 \* RATED-CFM = 26700.0 MIN-CFM-RATIO = 1.0 ..  
 \* 427 \*  
 \* 428 \* MPA =ZONE DESIGN-HEAT-T = 70.0 DESIGN-COOL-T = 75.0  
 \* 429 \* HEAT-TEMP-SCH = HEAT\_73\_SC COOL-TEMP-SCH = COOL\_75\_SC  
 \* 430 \* ZONE-TYPE = CONDITIONED  
 \* 431 \* THERMOSTAT-TYPE = PROPORTIONAL THROTTLING-RANGE = 1.0  
 \* 432 \* BASEBOARD-CTRL = THERMOSTATIC  
 \* 433 \* BASEBOARD-RATING = -500000. ASSIGNED-CFM = 7800.  
 \* 434 \* OUTSIDE-AIR-CFM = 1388. SIZING-OPTION = FROM-LOADS  
 \* 435 \* RATED-CFM = 7800.0 MIN-CFM-RATIO = 1.0 ..  
 \* 436 \*  
 \* 437 \* ADMIN =ZONE DESIGN-HEAT-T = 70.0 DESIGN-COOL-T = 75.0

\* 438 \* HEAT-TEMP-SCH = HEAT\_73\_SC COOL-TEMP-SCH = COOL\_75\_SC  
 \* 439 \* ZONE-TYPE = CONDITIONED  
 \* 440 \* THERMOSTAT-TYPE = PROPORTIONAL THROTTLING-RANGE = 1.0  
 \* 441 \* BASEBOARD-CTRL = THERMOSTATIC ASSIGNED-CFM = 4000.  
 \* 442 \* OUTSIDE-AIR-CFM = 475. SIZING-OPTION = FROM-LOADS  
 \* 443 \* RATED-CFM = 4000.0 MIN-CFM-RATIO = 1.0 ..  
 \* 444 \*  
 \* 445 \* FAST\_FOOD =ZONE DESIGN-HEAT-T = 70.0 DESIGN-COOL-T = 75.0  
 \* 446 \* HEAT-TEMP-SCH = HEAT\_73\_SC COOL-TEMP-SCH = COOL\_75\_SC  
 \* 447 \* ZONE-TYPE = CONDITIONED  
 \* 448 \* THERMOSTAT-TYPE = PROPORTIONAL THROTTLING-RANGE = 1.0  
 \* 449 \* BASEBOARD-CTRL = THERMOSTATIC  
 \* 450 \* BASEBOARD-RATING = -11500000. ASSIGNED-CFM = 8470.  
 \* 451 \* OUTSIDE-AIR-CFM = 4250. SIZING-OPTION = FROM-LOADS  
 \* 452 \* RATED-CFM = 8470.0 MIN-CFM-RATIO = 1.0 ..  
 \* 453 \*  
 \* 454 \* MALL =ZONE DESIGN-HEAT-T = 70.0 DESIGN-COOL-T = 75.0  
 \* 455 \* HEAT-TEMP-SCH = HEAT\_73\_SC COOL-TEMP-SCH = COOL\_75\_SC  
 \* 456 \* ZONE-TYPE = CONDITIONED  
 \* 457 \* THERMOSTAT-TYPE = PROPORTIONAL THROTTLING-RANGE = 1.0  
 \* 458 \* BASEBOARD-CTRL = THERMOSTATIC  
 \* 459 \* BASEBOARD-RATING = -1811500. ASSIGNED-CFM = 9650.  
 \* 460 \* OUTSIDE-AIR-CFM = 850. SIZING-OPTION = FROM-LOADS  
 \* 461 \* RATED-CFM = 9650.0 MIN-CFM-RATIO = 1.0 ..  
 \* 462 \*  
 \* 463 \* BEAUTY =ZONE DESIGN-HEAT-T = 70.0 DESIGN-COOL-T = 75.0  
 \* 464 \* HEAT-TEMP-SCH = HEAT\_73\_SC COOL-TEMP-SCH = COOL\_75\_SC  
 \* 465 \* ZONE-TYPE = CONDITIONED  
 \* 466 \* THERMOSTAT-TYPE = PROPORTIONAL THROTTLING-RANGE = 1.0  
 \* 467 \* BASEBOARD-CTRL = THERMOSTATIC  
 \* 468 \* BASEBOARD-RATING = -500000. ASSIGNED-CFM = 1837.  
 \* 469 \* OUTSIDE-AIR-CFM = 200. SIZING-OPTION = FROM-LOADS  
 \* 470 \* RATED-CFM = 1837.0 MIN-CFM-RATIO = 1.0 ..  
 \* 471 \*  
 \* 472 \* BARBER =ZONE DESIGN-HEAT-T = 70.0 DESIGN-COOL-T = 75.0  
 \* 473 \* HEAT-TEMP-SCH = HEAT\_73\_SC COOL-TEMP-SCH = COOL\_75\_SC  
 \* 474 \* ZONE-TYPE = CONDITIONED  
 \* 475 \* THERMOSTAT-TYPE = PROPORTIONAL THROTTLING-RANGE = 1.0  
 \* 476 \* BASEBOARD-CTRL = THERMOSTATIC ASSIGNED-CFM = 1000.  
 \* 477 \* OUTSIDE-AIR-CFM = 100. SIZING-OPTION = FROM-LOADS  
 \* 478 \* RATED-CFM = 1000.0 MIN-CFM-RATIO = 1.0 ..  
 \* 479 \*  
 \* 480 \* MCSS\_SALES =ZONE DESIGN-HEAT-T = 70.0 DESIGN-COOL-T = 75.0  
 \* 481 \* HEAT-TEMP-SCH = HEAT\_73\_SC COOL-TEMP-SCH = COOL\_75\_SC  
 \* 482 \* ZONE-TYPE = CONDITIONED  
 \* 483 \* THERMOSTAT-TYPE = PROPORTIONAL THROTTLING-RANGE = 1.0  
 \* 484 \* BASEBOARD-CTRL = THERMOSTATIC  
 \* 485 \* BASEBOARD-RATING = -1000000. ASSIGNED-CFM = 6576.  
 \* 486 \* OUTSIDE-AIR-CFM = 776. SIZING-OPTION = FROM-LOADS  
 \* 487 \* RATED-CFM = 6576.0 MIN-CFM-RATIO = 1.0 ..

\* 488 \*  
 \* 489 \* MCSS\_MPAQ =ZONE DESIGN-HEAT-T = 70.0 DESIGN-COOL-T = 75.0  
 \* 490 \* HEAT-TEMP-SCH = HEAT\_73\_SC COOL-TEMP-SCH = COOL\_75\_SC  
 \* 491 \* ZONE-TYPE = CONDITIONED  
 \* 492 \* THERMOSTAT-TYPE = PROPORTIONAL THROTTLING-RANGE = 1.0  
 \* 493 \* BASEBOARD-CTRL = THERMOSTATIC  
 \* 494 \* BASEBOARD-RATING = -56000. ASSIGNED-CFM = 3850.  
 \* 495 \* OUTSIDE-AIR-CFM = 533. SIZING-OPTION = FROM-LOADS  
 \* 496 \* RATED-CFM = 3850.0 MIN-CFM-RATIO = 1.0 ..  
 \* 497 \*  
 \* 498 \* GARDEN\_SLS =ZONE DESIGN-HEAT-T = 70.0 DESIGN-COOL-T = 75.0  
 \* 499 \* HEAT-TEMP-SCH = HEAT\_73\_SC COOL-TEMP-SCH = COOL\_75\_SC  
 \* 500 \* ZONE-TYPE = CONDITIONED  
 \* 501 \* THERMOSTAT-TYPE = PROPORTIONAL THROTTLING-RANGE = 1.0  
 \* 502 \* BASEBOARD-CTRL = THERMOSTATIC ASSIGNED-CFM = 1800.  
 \* 503 \* OUTSIDE-AIR-CFM = 180. SIZING-OPTION = FROM-LOADS  
 \* 504 \* RATED-CFM = 1800.0 MIN-CFM-RATIO = 1.0 ..  
 \* 505 \*  
 \* 506 \*  
 \* 507 \* \$ SYSTEM DESCRIPTION  
 \* 508 \*  
 \* 509 \* AHU\_1 =SYSTEM SYSTEM-TYPE = SZRH  
 \* 510 \* MAX-SUPPLY-T = 135.0 MIN-SUPPLY-T = 55.0  
 \* 511 \* HEAT-SET-T = 135.0 MIN-HUMIDITY = 30.0  
 \* 512 \* ECONO-LIMIT-T = 65.0 ECONO-LOW-LIMIT = 55.0  
 \* 513 \* OA-CONTROL = FIXED SUPPLY-CFM = 26700.  
 \* 514 \* RETURN-CFM = 23410. RATED-CFM = 26700.  
 \* 515 \* MIN-OUTSIDE-AIR = 0.12 MAX-OA-FRACTION = 0.88  
 \* 516 \* FAN-SCHEDULE = FAN\_ON\_SCD SUPPLY-STATIC = 4.0  
 \* 517 \* SUPPLY-EFF = 0.6 MOTOR-PLACEMENT = OUTSIDE-AIRFLOW  
 \* 518 \* NIGHT-CYCLE-CTRL = CYCLE-ON-ANY NIGHT-VENT-DT = 0.0  
 \* 519 \* MIN-CFM-RATIO = 1.0 COOLING-CAPACITY = 870000.  
 \* 520 \* HEATING-CAPACITY = -595000. FURNACE-AUX = 0.  
 \* 521 \* PREHEAT-SOURCE = HOT-WATER  
 \* 522 \* ZONE-NAMES = (RETAIL\_SLS) ..  
 \* 523 \*  
 \* 524 \* AHU\_2 =SYSTEM SYSTEM-TYPE = SZRH  
 \* 525 \* MAX-SUPPLY-T = 135.0 MIN-SUPPLY-T = 55.0  
 \* 526 \* HEAT-SET-T = 135.0 MIN-HUMIDITY = 30.0  
 \* 527 \* ECONO-LIMIT-T = 65.0 ECONO-LOW-LIMIT = 55.0  
 \* 528 \* OA-CONTROL = FIXED SUPPLY-CFM = 7800.  
 \* 529 \* RETURN-CFM = 6412. RATED-CFM = 7800.  
 \* 530 \* MIN-OUTSIDE-AIR = 0.18 MAX-OA-FRACTION = 0.82  
 \* 531 \* FAN-SCHEDULE = FAN\_ON\_SCD SUPPLY-STATIC = 3.5  
 \* 532 \* SUPPLY-EFF = 0.6 MOTOR-PLACEMENT = OUTSIDE-AIRFLOW  
 \* 533 \* NIGHT-CYCLE-CTRL = CYCLE-ON-ANY NIGHT-VENT-DT = 0.0  
 \* 534 \* MIN-CFM-RATIO = 1.0 COOLING-CAPACITY = 199600.  
 \* 535 \* HEATING-CAPACITY = -323500. FURNACE-AUX = 0.  
 \* 536 \* PREHEAT-SOURCE = HOT-WATER  
 \* 537 \* ZONE-NAMES = (MPA) ..



```

* 538 *
* 539 * AHU_3  =SYSTEM  SYSTEM-TYPE = SZRH
* 540 *      MAX-SUPPLY-T = 135.0 MIN-SUPPLY-T = 55.0
* 541 *      HEAT-SET-T = 55.0 PREHEAT-T = 20.0
* 542 *      MIN-HUMIDITY = 30.0 ECONO-LIMIT-T = 65.0
* 543 *      ECONO-LOW-LIMIT = 55.0 OA-CONTROL = FIXED
* 544 *      SUPPLY-CFM = 4000. RETURN-CFM = 3525.
* 545 *      RATED-CFM = 4000. MIN-OUTSIDE-AIR = 0.12
* 546 *      MAX-OA-FRACTION = 0.88 FAN-SCHEDULE = FAN_ON_SCD
* 547 *      SUPPLY-STATIC = 3.75 SUPPLY-EFF = 0.6
* 548 *      MOTOR-PLACEMENT = OUTSIDE-AIRFLOW
* 549 *      NIGHT-CYCLE-CTRL = CYCLE-ON-ANY NIGHT-VENT-DT = 0.0
* 550 *      MIN-CFM-RATIO = 1.0 REHEAT-DELTA-T = 30.
* 551 *      COOLING-CAPACITY = 120500.
* 552 *      HEATING-CAPACITY = -105000. FURNACE-AUX = 0.
* 553 *      ZONE-NAMES = (ADMIN) ..
* 554 *
* 555 * AHU_5  =SYSTEM  SYSTEM-TYPE = SZRH
* 556 *      MAX-SUPPLY-T = 135.0 MIN-SUPPLY-T = 55.0
* 557 *      HEAT-SET-T = 55.0 PREHEAT-T = 55.0
* 558 *      MIN-HUMIDITY = 30.0 ECONO-LIMIT-T = 65.0
* 559 *      ECONO-LOW-LIMIT = 55.0 OA-CONTROL = FIXED
* 560 *      SUPPLY-CFM = 9650. RETURN-CFM = 8800.
* 561 *      RATED-CFM = 9650. MIN-OUTSIDE-AIR = 0.1
* 562 *      MAX-OA-FRACTION = 0.9 FAN-SCHEDULE = FAN_ON_SCD
* 563 *      SUPPLY-STATIC = 3.75 SUPPLY-EFF = 0.6
* 564 *      MOTOR-PLACEMENT = OUTSIDE-AIRFLOW
* 565 *      NIGHT-CYCLE-CTRL = CYCLE-ON-ANY NIGHT-VENT-DT = 0.0
* 566 *      MIN-CFM-RATIO = 1.0 REHEAT-DELTA-T = 30.
* 567 *      COOLING-CAPACITY = 197580.
* 568 *      HEATING-CAPACITY = -207300. FURNACE-AUX = 0.
* 569 *      ZONE-NAMES = (MALL) ..
* 570 *
* 571 * AHU_4  =SYSTEM  SYSTEM-TYPE = SZRH
* 572 *      MAX-SUPPLY-T = 135.0 MIN-SUPPLY-T = 55.0
* 573 *      HEAT-SET-T = 135.0 MIN-HUMIDITY = 30.0
* 574 *      ECONO-LIMIT-T = 65.0 ECONO-LOW-LIMIT = 55.0
* 575 *      OA-CONTROL = FIXED SUPPLY-CFM = 8470.
* 576 *      RETURN-CFM = 4220. RATED-CFM = 8470.
* 577 *      MIN-OUTSIDE-AIR = 0.5 MAX-OA-FRACTION = 0.91
* 578 *      FAN-SCHEDULE = FAN_ON_SCD SUPPLY-STATIC = 3.5
* 579 *      SUPPLY-EFF = 0.6 MOTOR-PLACEMENT = OUTSIDE-AIRFLOW
* 580 *      NIGHT-CYCLE-CTRL = CYCLE-ON-ANY NIGHT-VENT-DT = 0.0
* 581 *      MIN-CFM-RATIO = 1.0 COOLING-CAPACITY = 283500.
* 582 *      HEATING-CAPACITY = -189400. FURNACE-AUX = 0.
* 583 *      PREHEAT-SOURCE = HOT-WATER
* 584 *      ZONE-NAMES = (FAST_FOOD) ..
* 585 *
* 586 * AHU_6  =SYSTEM  SYSTEM-TYPE = SZRH
* 587 *      MAX-SUPPLY-T = 135.0 MIN-SUPPLY-T = 55.0

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* 588 *      HEAT-SET-T = 135.0 MIN-HUMIDITY = 30.0
* 589 *      ECONO-LIMIT-T = 65.0 ECONO-LOW-LIMIT = 55.0
* 590 *      OA-CONTROL = FIXED SUPPLY-CFM = 1837.
* 591 *      RETURN-CFM = 1637. RATED-CFM = 1837.
* 592 *      MIN-OUTSIDE-AIR = 0.12 MAX-OA-FRACTION = 0.88
* 593 *      FAN-SCHEDULE = FAN_ON_SCD SUPPLY-STATIC = 2.75
* 594 *      SUPPLY-EFF = 0.6 MOTOR-PLACEMENT = OUTSIDE-AIRFLOW
* 595 *      NIGHT-CYCLE-CTRL = CYCLE-ON-ANY NIGHT-VENT-DT = 0.0
* 596 *      MIN-CFM-RATIO = 1.0 COOLING-CAPACITY = 71000.
* 597 *      HEATING-CAPACITY = -30700. FURNACE-AUX = 0.
* 598 *      PREHEAT-SOURCE = HOT-WATER
* 599 *      ZONE-NAMES = (BEAUTY) ..
* 600 *
* 601 * AHU_7  =SYSTEM  SYSTEM-TYPE = SZRH
* 602 *      MAX-SUPPLY-T = 135.0 MIN-SUPPLY-T = 55.0
* 603 *      HEAT-SET-T = 135.0 MIN-HUMIDITY = 30.0
* 604 *      ECONO-LIMIT-T = 65.0 ECONO-LOW-LIMIT = 55.0
* 605 *      OA-CONTROL = FIXED SUPPLY-CFM = 1000.
* 606 *      RETURN-CFM = 900. RATED-CFM = 1000.
* 607 *      MIN-OUTSIDE-AIR = 0.12 MAX-OA-FRACTION = 0.89
* 608 *      FAN-SCHEDULE = FAN_ON_SCD SUPPLY-STATIC = 2.75
* 609 *      SUPPLY-EFF = 0.6 MOTOR-PLACEMENT = OUTSIDE-AIRFLOW
* 610 *      NIGHT-CYCLE-CTRL = CYCLE-ON-ANY NIGHT-VENT-DT = 0.0
* 611 *      MIN-CFM-RATIO = 1.0 COOLING-CAPACITY = 20900.
* 612 *      HEATING-CAPACITY = -22450. FURNACE-AUX = 0.
* 613 *      PREHEAT-SOURCE = HOT-WATER
* 614 *      ZONE-NAMES = (BARBER) ..
* 615 *
* 616 * AHU_8  =SYSTEM  SYSTEM-TYPE = SZRH
* 617 *      MAX-SUPPLY-T = 135.0 MIN-SUPPLY-T = 55.0
* 618 *      HEAT-SET-T = 135.0 MIN-HUMIDITY = 30.0
* 619 *      ECONO-LIMIT-T = 65.0 ECONO-LOW-LIMIT = 55.0
* 620 *      OA-CONTROL = FIXED SUPPLY-CFM = 6576.
* 621 *      RETURN-CFM = 5800. RATED-CFM = 6576.
* 622 *      MIN-OUTSIDE-AIR = 0.12 MAX-OA-FRACTION = 0.88
* 623 *      FAN-SCHEDULE = FAN_ON_SCD SUPPLY-STATIC = 3.5
* 624 *      SUPPLY-EFF = 0.6 MOTOR-PLACEMENT = OUTSIDE-AIRFLOW
* 625 *      NIGHT-CYCLE-CTRL = CYCLE-ON-ANY NIGHT-VENT-DT = 0.0
* 626 *      MIN-CFM-RATIO = 1.0 COOLING-CAPACITY = 214000.
* 627 *      HEATING-CAPACITY = -111100. FURNACE-AUX = 0.
* 628 *      PREHEAT-SOURCE = HOT-WATER
* 629 *      ZONE-NAMES = (MCSS_SALES) ..
* 630 *
* 631 * AHU_9  =SYSTEM  SYSTEM-TYPE = SZRH
* 632 *      MAX-SUPPLY-T = 135.0 MIN-SUPPLY-T = 55.0
* 633 *      HEAT-SET-T = 135.0 MIN-HUMIDITY = 30.0
* 634 *      ECONO-LIMIT-T = 65.0 ECONO-LOW-LIMIT = 55.0
* 635 *      OA-CONTROL = FIXED SUPPLY-CFM = 3850.
* 636 *      RETURN-CFM = 3317. RATED-CFM = 3850.
* 637 *      MIN-OUTSIDE-AIR = 0.14 MAX-OA-FRACTION = 0.86

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* 638 *      FAN-SCHEDULE = FAN_ON_SCD  SUPPLY-STATIC = 2.5
* 639 *      SUPPLY-EFF = 0.6  MOTOR-PLACEMENT = OUTSIDE-AIRFLOW
* 640 *      NIGHT-CYCLE-CTRL = CYCLE-ON-ANY  NIGHT-VENT-DT = 0.0
* 641 *      MIN-CFM-RATIO = 1.0  COOLING-CAPACITY = 96900.
* 642 *      HEATING-CAPACITY = -163100.  FURNACE-AUX = 0.
* 643 *      PREHEAT-SOURCE = HOT-WATER
* 644 *      ZONE-NAMES = (MCSS_MPAQ) ..
* 645 *
* 646 * AHU_10  =SYSTEM  SYSTEM-TYPE = SZRH
* 647 *      MAX-SUPPLY-T = 135.0  MIN-SUPPLY-T = 55.0
* 648 *      HEAT-SET-T = 135.0  MIN-HUMIDITY = 30.0
* 649 *      ECONO-LIMIT-T = 65.0  ECONO-LOW-LIMIT = 55.0
* 650 *      OA-CONTROL = FIXED  SUPPLY-CFM = 1800.
* 651 *      RETURN-CFM = 1620.  RATED-CFM = 1800.
* 652 *      MIN-OUTSIDE-AIR = 0.1  FAN-SCHEDULE = FAN_ON_SCD
* 653 *      SUPPLY-STATIC = 2.5  SUPPLY-EFF = 0.6
* 654 *      MOTOR-PLACEMENT = OUTSIDE-AIRFLOW
* 655 *      NIGHT-CYCLE-CTRL = CYCLE-ON-ANY  NIGHT-VENT-DT = 0.0
* 656 *      MIN-CFM-RATIO = 1.0  COOLING-CAPACITY = 62700.
* 657 *      HEATING-CAPACITY = -65500.  FURNACE-AUX = 0.
* 658 *      PREHEAT-SOURCE = HOT-WATER
* 659 *      ZONE-NAMES = (GARDEN_SLS) ..
* 660 *
* 661 * END ..
* 662 * COMPUTE SYSTEMS ..
* 663 *
* 664 * INPUT PLANT ..

```

# PDL PROCESSOR INPUT DATA

3/18/1995 11:1:24 PDL RUN 1

```

* 665 *
* 666 *
* 667 *      $-----$
* 668 *      $EZ-DOE PLANTS INPUT$
* 669 *      $-----$
* 670 *
* 671 *      $ GENERAL PROJECT DATA
* 672 *
* 673 * TITLE LINE-1 *  EMC  ENGINEERS  INC.  *
* 674 *  LINE-2 *EZDOE - ELITE SOFTWARE DEVELOPMENT INC*
* 675 *  LINE-3 *  DENVER,  CO  80227  *
* 676 *
* 677 *  LINE-4 *BLDG 10730 EXCHANGE MAIN RETAIL AND  *
* 678 *  LINE-5 *CLOTHING SALES STORE - BASE MODEL  *..
* 679 *

```

```

*680 * ABORT          ERRORS ..
*681 * DIAGNOSTIC     WARNINGS ..
*682 * PLANT-REPORT    SUMMARY=(PS-A,PS-B,BEPS)
*683 * ..
*684 *
*685 *          $ SCHEDULES
*686 *
*687 * FULL_ON_D =DAY-SCHEDULE (1,24) (1.) ..
*688 *
*689 *
*690 * FULL_ON_W =WEEK-SCHEDULE (ALL) FULL_ON_D ..
*691 *
*692 *
*693 * FULL_ON  =SCHEDULE THRU DEC 31 FULL_ON_W ..
*694 *
*695 *
*696 *
*697 *          $ EQUIPMENT DESCRIPTION
*698 *
*699 * HTHW_HX  =PLANT-EQUIPMENT  TYPE = HTANK-STORAGE
*700 *          SIZE = 2.1 ..
*701 *
*702 * ACC1&2  =PLANT-EQUIPMENT  TYPE = OPEN-REC-CHLR
*703 *          SIZE = 1.1  INSTALLED-NUMBER = 2
*704 *          MAX-NUMBER-AVAIL = 2 ..
*705 *
*706 * PLANT-PARAMETERS  OPEN-REC-COND-TYPE = AIR  CHILL-WTR-T = 43.
*707 *          CCIRC-IMPELLER-EFF = 0.67  CCIRC-HEAD = 100.0
*708 *          HCIRC-IMPELLER-EFF = 0.73  HCIRC-HEAD = 95.0 ..
*709 *
*710 *
*711 * ENERGY-RESOURCE  RESOURCE = ELECTRICITY ..
*712 * ENERGY-RESOURCE  RESOURCE = STEAM ..
*713 * ENERGY-RESOURCE  RESOURCE = NATURAL-GAS ..
*714 *
*715 * ENERGY-STORAGE  HEAT-STORE-RATE = 2.11  HEAT-SUPPLY-RATE = 2.11
*716 *          HTANK-BASE-T = 195.0  HTANK-T-RANGE = 5.0
*717 *          HEAT-STORE-SCH = FULL_ON ..
*718 *
*719 *  HEAT-RECOVERY
*720 *          SUPPLY-1 = (HTANK-STORAGE)
*721 *          DEMAND-1 = (SPACE-HEAT,PROCESS-HEAT) ..
*722 *
*723 *
*724 *
*725 * END ..
*726 * COMPUTE PLANT ..
*727 * STOP ..

```

ENERGY TYPE IN SITE MBTU-	STEAM	ELECTRICITY	NATURAL-GAS
CATEGORY OF USE			
SPACE HEAT	6135.91	0.00	0.00
SPACE COOL	0.00	327.24	0.00
HVAC AUX	0.00	1751.67	0.00
DOM HOT WTR	0.00	0.00	0.00
AUX SOLAR	0.00	0.00	0.00
LIGHTS	0.00	1539.33	0.00
VERT TRANS	0.00	0.00	0.00
MISC EQUIP	0.00	464.58	8549.75
	-----	-----	-----
TOTAL	6135.91	4082.81	8549.75

TOTAL SITE ENERGY 18769.31 MBTU 242.0 KBTU/SQFT-YR GROSS-AREA 242.0 KBTU/SQFT-YR NET-AREA  
 TOTAL SOURCE ENERGY 31037.56 MBTU 400.1 KBTU/SQFT-YR GROSS-AREA 400.1 KBTU/SQFT-YR NET-AREA

PERCENT OF HOURS ANY SYSTEM ZONE OUTSIDE OF THROTTLING RANGE = 8.5  
 PERCENT OF HOURS ANY PLANT LOAD NOT SATISFIED = 0.0

NOTE ELECTRICITY AND/OR FUEL USED TO GENERATE ELECTRICITY IS APPORTIONED BASED  
 ON THE YEARLY DEMAND. ALL OTHER ENERGY TYPES ARE APPORTIONED HOURLY.

MO	UTILITY- STEAM	ELECTRICITY	NATURAL-GAS
JAN	TOTAL(MBTU)	1385.698	726.225
	PEAK(KBTU)	3458.692	976.107
	DY/HR	5/ 2	31/24
FEB	TOTAL(MBTU)	983.678	655.944
	PEAK(KBTU)	2631.999	976.107
	DY/HR	5/ 6	28/24
MAR	TOTAL(MBTU)	980.26	726.225
	PEAK(KBTU)	2523.396	976.107
	DY/HR	27/ 6	31/24
APR	TOTAL(MBTU)	508.606	702.798
	PEAK(KBTU)	1868.644	976.107
	DY/HR	1/ 5	30/ 1
MAY	TOTAL(MBTU)	272.431	726.225
	PEAK(KBTU)	1560.402	976.107
	DY/HR	3/ 5	31/15
JUN	TOTAL(MBTU)	52.978	702.798
	PEAK(KBTU)	629.232	976.107
	DY/HR	8/ 6	30/ 1
JUL	TOTAL(MBTU)	20.368	726.225
	PEAK(KBTU)	487.182	976.107
	DY/HR	25/ 5	31/ 1
AUG	TOTAL(MBTU)	27.825	726.225
	PEAK(KBTU)	458.405	976.107
	DY/HR	25/ 6	31/ 1
SEP	TOTAL(MBTU)	98.274	702.798
	PEAK(KBTU)	905.28	976.107
	DY/HR	24/ 4	30/ 1
OCT	TOTAL(MBTU)	281.235	726.225
	PEAK(KBTU)	1519.718	976.107
	DY/HR	25/ 5	31/24
NOV	TOTAL(MBTU)	561.579	702.798
	PEAK(KBTU)	1922.158	976.107
	DY/HR	27/ 6	30/24

DEC	TOTAL(MBTU)	962.979	316.5	726.225
	PEAK(KBTU)	2673.597	653.31	976.107
	DY/HR	3/ 4	9/16	31/24
	ONE YEAR	6135.91	4082.691	8550.711
	USE/PEAK	3458.692	1129.315	976.107

**COMPUTER SIMULATIONS**  
BUILDING 10730

RUN 1 - SCHEDULE START/STOP AND NIGHT SETBACK



## LDL PROCESSOR INPUT DATA

3/27/1995 12:37: 6 LDL RUN 1

```
* 3 *
* 4 *
* 5 *
* 6 *      $-----$
* 7 *      $EZ - DOE LOADS INPUT $
* 8 *      $-----$
* 9 *
* 10 *      $ GENERAL PROJECT DATA
* 11 * TITLE LINE-1 * EMC ENGINEERS INC. *
* 12 * LINE-2 *EZDOE - ELITE SOFTWARE DEVELOPMENT INC*
* 13 * LINE-3 * DENVER, CO 80227 *
* 14 *
* 15 * LINE-4 *BLDG 10730 EXCHANGE MAIN RETAIL AND *
* 16 * LINE-5 *CLOTHING SALES STORE-MODEL WITH SET BACK* ..
* 17 *
* 18 * ABORT ERRORS ..
* 19 * DIAGNOSTIC WARNINGS ..
* 20 * BUILDING-LOCATION X-REF = 0.0
* 21 * Y-REF = 0.0 ..
* 22 * RUN-PERIOD JAN 1 1994 THRU DEC 31 1994 ..
* 23 *
* 24 *
* 25 *      $ SCHEDULES
* 26 *
* 27 * FULL_OFF_D =DAY-SCHEDULE (1,24) (0.) ..
* 28 *
* 29 * PEOPLE_D =DAY-SCHEDULE (1,6) (0.)
* 30 * (7,9) (0.1,0.2,0.4)
* 31 * (10,14) (0.7)
* 32 * (15,18) (0.9)
* 33 * (19,20) (1.)
* 34 * (21,22) (0.2)
* 35 * (23,24) (0.1) ..
* 36 *
* 37 * LIGHT_ON_D =DAY-SCHEDULE (1,2) (0.2)
* 38 * (3,6) (0.1)
* 39 * (7) (0.2)
* 40 * (8,9) (0.3)
* 41 * (10,17) (0.9)
* 42 * (18,19) (0.6)
* 43 * (20) (0.5)
* 44 * (21,22) (0.4)
* 45 * (23,24) (0.3,0.2) ..
* 46 *
* 47 * FULL_ON_D =DAY-SCHEDULE (1,24) (1.) ..
* 48 *
* 49 *
* 50 * FULL_OFF_W =WEEK-SCHEDULE (ALL) FULL_OFF_D ..
* 51 *
* 52 * PEOPLE_W =WEEK-SCHEDULE (ALL) PEOPLE_D ..
* 53 *
* 54 * LIGHT_ON_W =WEEK-SCHEDULE (ALL) LIGHT_ON_D ..
* 55 *
* 56 * FULL_ON_W =WEEK-SCHEDULE (ALL) FULL_ON_D ..
* 57 *
* 58 *
* 59 * FULL_ON =SCHEDULE THRU DEC 31 FULL_ON_W ..
* 60 *
* 61 * FULL_OFF =SCHEDULE THRU DEC 31 FULL_OFF_W ..
* 62 *
* 63 * $ OCCUPANCY SCHEDULE
* 64 * PEOPLE_Y =SCHEDULE THRU DEC 31 PEOPLE_W ..
* 65 *
* 66 * $ LIGHTING SCHEDULE
* 67 * LIGHT_ON_Y =SCHEDULE THRU DEC 31 LIGHT_ON_W ..
* 68 *
* 69 *
* 70 *
* 71 *      $ CONSTRUCTION TYPES
* 72 *
* 73 *
* 74 *
* 75 * FLOORCON =CONSTRUCTION U-VALUE = 0.100 ..
* 76 * ROOF_CON =CONSTRUCTION U-VALUE = 0.050 ..
* 77 * WALL_CON =CONSTRUCTION U-VALUE = 0.200 ..
* 78 * DOOR_CON =CONSTRUCTION U-VALUE = 1.000 ..
* 79 * INWALL =CONSTRUCTION U-VALUE = 20.000 ..
* 80 *
* 81 * G_TYPE1 =GLASS-TYPE GLASS-TYPE-CODE = 1
* 82 * PANES = 1
* 83 * GLASS-CONDUCTANCE = 1.130 ..
* 84 *
* 85 *
* 86 *
* 87 *
* 88 *      $ SPACE DESCRIPTION
* 89 *
* 90 * RETAIL_SLS =SPACE AREA = 28176.0 VOLUME = 228112.0
* 91 * AZIMUTH = 240 ZONE-TYPE = CONDITIONED
* 92 * PEOPLE-SCHEDULE = PEOPLE_Y NUMBER-OF-PEOPLE = 200.0
* 93 * PEOPLE-HEAT-GAIN = 550.0
* 94 * LIGHTING-TYPE = REC-FLUOR-RV LIGHTING-W/SQFT = 1.35
* 95 * LIGHTING-SCHEDULE = LIGHT_ON_Y
* 96 * INF-METHOD = AIR-CHANGE AIR-CHANGES/HR = 0.5
* 97 * INF-SCHEDULE = FULL_ON ..
* 98 *
* 99 * U-W HEIGHT = 127.0 WIDTH = 222.0 CONS = FLOORCON
* 100 * AZIMUTH = 240 ..
* 101 *
* 102 * ROOF HEIGHT = 127.0 WIDTH = 222.0 CONS = ROOF_CON
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* 103 *          AZIMUTH = 240  TILT = 0  ..
* 104 *
* 105 *      E-W      HEIGHT = 12.0  WIDTH = 104.0  CONS = WALL_CON
* 106 *          AZIMUTH = 150  ..
* 107 *
* 108 *      DOOR     HEIGHT = 7.5  WIDTH = 3.0  CONS = DOOR_CON
* 109 *          MULTIPLIER = 2.0  ..
* 110 *
* 111 *      E-W      HEIGHT = 12.0  WIDTH = 52.0  CONS = WALL_CON
* 112 *          AZIMUTH = 60  ..
* 113 *
* 114 *      E-W      HEIGHT = 12.0  WIDTH = 127.0  CONS = WALL_CON
* 115 *          AZIMUTH = 330  ..
* 116 *
* 117 *      DOOR     HEIGHT = 7.5  WIDTH = 3.0  CONS = DOOR_CON ..
* 118 *
* 119 *      I-W      HEIGHT = 12.0  WIDTH = 1000.0  CONS = INWALL
* 120 *          AZIMUTH = 240  NEXT-TO = MALL  ..
* 121 *
* 122 *
* 123 * MPA          =SPACE  AREA = 13803.0  VOLUME = 165636.0
* 124 *          AZIMUTH = 240  ZONE-TYPE = CONDITIONED
* 125 *          PEOPLE-SCHEDULE = PEOPLE_Y  NUMBER-OF-PEOPLE = 40.0
* 126 *          PEOPLE-HEAT-GAIN = 550.0
* 127 *          LIGHTING-TYPE = REC-FLUOR-RV  LIGHTING-W/SQFT = 1.35
* 128 *          LIGHTING-SCHEDULE = LIGHT_ON_Y
* 129 *          INF-METHOD = AIR-CHANGE  AIR-CHANGES/HR = 0.5
* 130 *          INF-SCHEDULE = FULL_ON  ..
* 131 *
* 132 *      U-W      HEIGHT = 85.0  WIDTH = 163.0  CONS = FLOORCON
* 133 *          AZIMUTH = 240  ..
* 134 *
* 135 *      ROOF     HEIGHT = 85.0  WIDTH = 163.0  CONS = ROOF_CON
* 136 *          AZIMUTH = 240  TILT = 0  ..
* 137 *
* 138 *      E-W      HEIGHT = 12.0  WIDTH = 64.0  CONS = WALL_CON
* 139 *          AZIMUTH = 150  ..
* 140 *
* 141 *      DOOR     HEIGHT = 7.5  WIDTH = 3.0  CONS = DOOR_CON
* 142 *          MULTIPLIER = 2.0  ..
* 143 *
* 144 *      E-W      HEIGHT = 12.0  WIDTH = 163.0  CONS = WALL_CON
* 145 *          AZIMUTH = 240  ..
* 146 *
* 147 *      DOOR     HEIGHT = 7.5  WIDTH = 3.0  CONS = DOOR_CON ..
* 148 *
* 149 *
* 150 * ADMIN        =SPACE  AREA = 4640.0  VOLUME = 46400.0
* 151 *          AZIMUTH = 240  ZONE-TYPE = CONDITIONED
* 152 *          PEOPLE-SCHEDULE = PEOPLE_Y  NUMBER-OF-PEOPLE = 100.0
* 153 *          PEOPLE-HEAT-GAIN = 550.0
* 154 *          LIGHTING-TYPE = REC-FLUOR-RV  LIGHTING-W/SQFT = 1.35
* 155 *          LIGHTING-SCHEDULE = LIGHT_ON_Y
* 156 *          INF-METHOD = AIR-CHANGE  AIR-CHANGES/HR = 0.5
* 157 *          INF-SCHEDULE = FULL_ON  ..
* 158 *
* 159 *      U-W      HEIGHT = 64.0  WIDTH = 73.0  CONS = FLOORCON
* 160 *          AZIMUTH = 240  ..
* 161 *
* 162 *      ROOF     HEIGHT = 64.0  WIDTH = 73.0  CONS = ROOF_CON
* 163 *          AZIMUTH = 240  TILT = 0  ..
* 164 *
* 165 *      E-W      HEIGHT = 10.0  WIDTH = 64.0  CONS = WALL_CON
* 166 *          AZIMUTH = 330  ..
* 167 *
* 168 *      DOOR     HEIGHT = 7.5  WIDTH = 3.0  CONS = DOOR_CON ..
* 169 *
* 170 *      I-W      HEIGHT = 10.0  WIDTH = 10.0  CONS = INWALL
* 171 *          AZIMUTH = 240  NEXT-TO = MCSS_SALES  ..
* 172 *
* 173 *
* 174 * FAST_FOOD     =SPACE  AREA = 4860.0  VOLUME = 58320.0
* 175 *          AZIMUTH = 240  ZONE-TYPE = CONDITIONED
* 176 *          PEOPLE-SCHEDULE = PEOPLE_Y  NUMBER-OF-PEOPLE = 100.0
* 177 *          PEOPLE-HEAT-GAIN = 550.0
* 178 *          LIGHTING-TYPE = REC-FLUOR-RV  LIGHTING-W/SQFT = 1.35
* 179 *          LIGHTING-SCHEDULE = LIGHT_ON_Y
* 180 *          EQUIP-SCHEDULE = FULL_ON  EQUIPMENT-KW = 15.54
* 181 *          EQUIP-SENSIBLE = 0.0  SOURCE-SCHEDULE = FULL_ON
* 182 *          SOURCE-TYPE = GAS  SOURCE-BTU/HR = 976107.0
* 183 *          SOURCE-SENSIBLE = 0.1  INF-METHOD = AIR-CHANGE
* 184 *          AIR-CHANGES/HR = 0.5  INF-SCHEDULE = FULL_ON  ..
* 185 *
* 186 *      U-W      HEIGHT = 61.0  WIDTH = 80.0  CONS = FLOORCON
* 187 *          AZIMUTH = 240  ..
* 188 *
* 189 *      ROOF     HEIGHT = 61.0  WIDTH = 80.0  CONS = ROOF_CON
* 190 *          AZIMUTH = 240  TILT = 0  ..
* 191 *
* 192 *      E-W      HEIGHT = 10.0  WIDTH = 62.0  CONS = WALL_CON
* 193 *          AZIMUTH = 60  ..
* 194 *
* 195 *      WINDOW   HEIGHT = 6.0  WIDTH = 4.0  G-T = G_TYPE1
* 196 *          MULTIPLIER = 11.0  ..
* 197 *
* 198 *      E-W      HEIGHT = 10.0  WIDTH = 29.0  CONS = WALL_CON
* 199 *          AZIMUTH = 105  ..
* 200 *
* 201 *      DOOR     HEIGHT = 7.5  WIDTH = 3.0  CONS = DOOR_CON ..
* 202 *
* 203 *      E-W      HEIGHT = 10.0  WIDTH = 45.0  CONS = WALL_CON
* 204 *          AZIMUTH = 250  ..
* 205 *
* 206 *      DOOR     HEIGHT = 7.5  WIDTH = 3.0  CONS = DOOR_CON
* 207 *          MULTIPLIER = 2.0  ..
* 208 *
* 209 *
* 210 * MALL          =SPACE  AREA = 7916.0  VOLUME = 79160.0

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* 211 *      AZIMUTH = 240  ZONE-TYPE = CONDITIONED
* 212 *      PEOPLE-SCHEDULE = PEOPLE_Y  NUMBER-OF-PEOPLE = 100.0
* 213 *      PEOPLE-HEAT-GAIN = 550.0
* 214 *      LIGHTING-TYPE = REC-FLUOR-RV  LIGHTING-W/SQFT = 1.35
* 215 *      LIGHTING-SCHEDULE = LIGHT_ON_Y
* 216 *      INF-METHOD = AIR-CHANGE  AIR-CHANGES/HR = 0.75
* 217 *      INF-SCHEDULE = FULL_ON  ..
* 218 *
* 219 *      U-W      HEIGHT = 50.0  WIDTH = 158.0  CONS = FLOORCON
* 220 *      AZIMUTH = 240  ..
* 221 *
* 222 *      ROOF     HEIGHT = 50.0  WIDTH = 158.0  CONS = ROOF_CON
* 223 *      AZIMUTH = 240  TILT = 0  ..
* 224 *
* 225 *      E-W      HEIGHT = 10.0  WIDTH = 100.0  CONS = WALL_CON
* 226 *      AZIMUTH = 60  ..
* 227 *
* 228 *      E-W      HEIGHT = 10.0  WIDTH = 90.0  CONS = WALL_CON
* 229 *      AZIMUTH = 105  ..
* 230 *
* 231 *      DOOR     HEIGHT = 7.5  WIDTH = 3.0  CONS = DOOR_CON
* 232 *      MULTIPLIER = 2.0  ..
* 233 *
* 234 *
* 235 *  BEAUTY     =SPACE  AREA = 1146.0  VOLUME = 11460.0
* 236 *      AZIMUTH = 240  ZONE-TYPE = CONDITIONED
* 237 *      PEOPLE-SCHEDULE = PEOPLE_Y  NUMBER-OF-PEOPLE = 20.0
* 238 *      PEOPLE-HEAT-GAIN = 550.0
* 239 *      LIGHTING-TYPE = REC-FLUOR-RV  LIGHTING-W/SQFT = 1.35
* 240 *      LIGHTING-SCHEDULE = LIGHT_ON_Y
* 241 *      INF-METHOD = AIR-CHANGE  AIR-CHANGES/HR = 0.5
* 242 *      INF-SCHEDULE = FULL_ON  ..
* 243 *
* 244 *      U-W      HEIGHT = 23.0  WIDTH = 50.0  CONS = FLOORCON
* 245 *      AZIMUTH = 240  ..
* 246 *
* 247 *      ROOF     HEIGHT = 23.0  WIDTH = 50.0  CONS = ROOF_CON
* 248 *      AZIMUTH = 240  TILT = 0  ..
* 249 *
* 250 *      E-W      HEIGHT = 10.0  WIDTH = 30.0  CONS = WALL_CON
* 251 *      AZIMUTH = 60  ..
* 252 *
* 253 *      E-W      HEIGHT = 10.0  WIDTH = 20.0  CONS = WALL_CON
* 254 *      AZIMUTH = 0  ..
* 255 *
* 256 *
* 257 *  BARBER     =SPACE  AREA = 595.0  VOLUME = 5950.0
* 258 *      AZIMUTH = 240  ZONE-TYPE = CONDITIONED
* 259 *      PEOPLE-SCHEDULE = PEOPLE_Y  NUMBER-OF-PEOPLE = 15.0
* 260 *      PEOPLE-HEAT-GAIN = 550.0
* 261 *      LIGHTING-TYPE = REC-FLUOR-RV  LIGHTING-W/SQFT = 1.35
* 262 *      LIGHTING-SCHEDULE = LIGHT_ON_Y
* 263 *      INF-METHOD = AIR-CHANGE  AIR-CHANGES/HR = 0.5
* 264 *      INF-SCHEDULE = FULL_ON  ..
* 265 *
* 266 *      U-W      HEIGHT = 19.0  WIDTH = 32.0  CONS = FLOORCON
* 267 *      AZIMUTH = 240  ..
* 268 *
* 269 *      ROOF     HEIGHT = 19.0  WIDTH = 32.0  CONS = ROOF_CON
* 270 *      AZIMUTH = 240  TILT = 0  ..
* 271 *
* 272 *      E-W      HEIGHT = 10.0  WIDTH = 32.0  CONS = WALL_CON
* 273 *      AZIMUTH = 105  ..
* 274 *
* 275 *      I-W      HEIGHT = 10.0  WIDTH = 45.0  CONS = INWALL
* 276 *      AZIMUTH = 150  NEXT-TO = MALL  ..
* 277 *
* 278 *
* 279 *  MCSS_SALES =SPACE  AREA = 7125.0  VOLUME = 85500.0
* 280 *      AZIMUTH = 285  ZONE-TYPE = CONDITIONED
* 281 *      PEOPLE-SCHEDULE = PEOPLE_Y  NUMBER-OF-PEOPLE = 50.0
* 282 *      PEOPLE-HEAT-GAIN = 550.0
* 283 *      LIGHTING-TYPE = REC-FLUOR-RV  LIGHTING-W/SQFT = 1.35
* 284 *      LIGHTING-SCHEDULE = LIGHT_ON_Y
* 285 *      INF-METHOD = AIR-CHANGE  AIR-CHANGES/HR = 0.5
* 286 *      INF-SCHEDULE = FULL_ON  ..
* 287 *
* 288 *      U-W      HEIGHT = 143.0  WIDTH = 50.0  CONS = FLOORCON
* 289 *      AZIMUTH = 285  ..
* 290 *
* 291 *      ROOF     HEIGHT = 143.0  WIDTH = 50.0  CONS = ROOF_CON
* 292 *      AZIMUTH = 285  TILT = 0  ..
* 293 *
* 294 *      E-W      HEIGHT = 12.0  WIDTH = 100.0  CONS = WALL_CON
* 295 *      AZIMUTH = 195  ..
* 296 *
* 297 *      E-W      HEIGHT = 12.0  WIDTH = 25.0  CONS = WALL_CON
* 298 *      AZIMUTH = 285  ..
* 299 *
* 300 *      DOOR     HEIGHT = 7.5  WIDTH = 3.0  CONS = DOOR_CON
* 301 *      MULTIPLIER = 3.0  ..
* 302 *
* 303 *
* 304 *  MCSS_MPAQ   =SPACE  AREA = 7125.0  VOLUME = 85500.0
* 305 *      AZIMUTH = 285  ZONE-TYPE = CONDITIONED
* 306 *      PEOPLE-SCHEDULE = PEOPLE_Y  NUMBER-OF-PEOPLE = 50.0
* 307 *      PEOPLE-HEAT-GAIN = 550.0
* 308 *      LIGHTING-TYPE = REC-FLUOR-RV  LIGHTING-W/SQFT = 1.35
* 309 *      LIGHTING-SCHEDULE = LIGHT_ON_Y
* 310 *      INF-METHOD = AIR-CHANGE  AIR-CHANGES/HR = 0.5
* 311 *      INF-SCHEDULE = FULL_ON  ..
* 312 *
* 313 *      U-W      HEIGHT = 143.0  WIDTH = 50.0  CONS = FLOORCON
* 314 *      AZIMUTH = 285  ..
* 315 *
* 316 *      ROOF     HEIGHT = 143.0  WIDTH = 50.0  CONS = ROOF_CON
* 317 *      AZIMUTH = 285  TILT = 0  ..
* 318 *

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* 319 *           E-W      HEIGHT = 12.0  WIDTH = 125.0  CONS = WALL_CON
* 320 *           AZIMUTH = 285  ..
* 321 *
* 322 *           DOOR     HEIGHT = 7.5   WIDTH = 3.0   CONS = DOOR_CON
* 323 *           MULTIPLIER = 3.0  ..
* 324 *
* 325 *   IMAG_WALL  =I-W    HEIGHT = 12.0  WIDTH = 1000.0  CONS = INWALL
* 326 *           AZIMUTH = 285  NEXT-TO = MCSS_SALES  ..
* 327 *
* 328 *
* 329 *   GARDEN_SLS =SPACE  AREA = 2184.0  VOLUME = 26208.0
* 330 *           AZIMUTH = 240  ZONE-TYPE = CONDITIONED
* 331 *           PEOPLE-SCHEDULE = PEOPLE_Y  NUMBER-OF-PEOPLE = 40.0
* 332 *           PEOPLE-HEAT-GAIN = 550.0
* 333 *           LIGHTING-TYPE = REC-FLUOR-RV  LIGHTING-W/SQFT = 1.35
* 334 *           LIGHTING-SCHEDULE = LIGHT_ON_Y
* 335 *           INF-METHOD = AIR-CHANGE  AIR-CHANGES/HR = 0.5
* 336 *           INF-SCHEDULE = FULL_ON  ..
* 337 *
* 338 *           U-W      HEIGHT = 57.0  WIDTH = 39.0  CONS = FLOORCON
* 339 *           AZIMUTH = 240  ..
* 340 *
* 341 *           ROOF     HEIGHT = 57.0  WIDTH = 39.0  CONS = ROOF_CON
* 342 *           AZIMUTH = 240  TILT = 0  ..
* 343 *
* 344 *           E-W      HEIGHT = 12.0  WIDTH = 39.0  CONS = WALL_CON
* 345 *           AZIMUTH = 60  ..
* 346 *
* 347 *           E-W      HEIGHT = 12.0  WIDTH = 57.0  CONS = WALL_CON
* 348 *           AZIMUTH = 150  ..
* 349 *
* 350 *           E-W      HEIGHT = 12.0  WIDTH = 39.0  CONS = WALL_CON
* 351 *           AZIMUTH = 240  ..
* 352 *
* 353 *           DOOR     HEIGHT = 7.5   WIDTH = 3.0   CONS = DOOR_CON
* 354 *           MULTIPLIER = 2.0  ..
* 355 *
* 356 *           I-W      HEIGHT = 12.0  WIDTH = 1000.0  CONS = INWALL
* 357 *           AZIMUTH = 150  NEXT-TO = MPA  ..
* 358 *
* 359 *
* 360 *   END  ..
* 361 *   COMPUTE LOADS  ..
* 362 *
* 363 *   INPUT SYSTEMS  ..

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SDL PROCESSOR INPUT DATA

3/27/1995 12:37: 6 SDL RUN 1

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* 364 *
* 365 *
* 366 *      $-----$
* 367 *      $EZ - DOE SYSTEMS INPUT$
* 368 *      $-----$
* 369 *
* 370 *      $ GENERAL PROJECT DATA
* 371 *
* 372 * TITLE LINE-1 * EMC ENGINEERS INC. *
* 373 * LINE-2 *EZDOR - ELITE SOFTWARE DEVELOPMENT INC*
* 374 * LINE-3 * DENVER, CO 80227 *
* 375 *
* 376 * LINE-4 *BLDG 10730 EXCHANGE MAIN RETAIL AND *
* 377 * LINE-5 *CLOTHING SALES STORE-MODEL WITH SET BACK* ..
* 378 * ABORT ERRORS
* 379 * DIAGNOSTIC WARNINGS ..
* 380 * SYSTEMS-REPORT SUMMARY=(SS-A,SS-B,SS-C,SS-O) ..
* 381 *
* 382 *      $ SCHEDULES
* 383 *
* 384 * FULL_ON_D =DAY-SCHEDULE (1,24) (1.) ..
* 385 * FULL_OFF_D =DAY-SCHEDULE (1,24) (0.) ..
* 386 * HEAT_68_D =DAY-SCHEDULE (1,24) (68.) ..
* 387 * COOL_75_D =DAY-SCHEDULE (1,5) (85.) ..
* 388 * (6,21) (75.)
* 389 * (22,24) (85.) ..
* 390 * FAN_ON_D =DAY-SCHEDULE (1,24) (1.) ..
* 391 * FAN_WSBA_D =DAY-SCHEDULE (1,8) (0.) ..
* 392 * (9,18) (1.)
* 393 * (19,24) (0.) ..
* 394 * FAN_WSB_B_D =DAY-SCHEDULE (1,9) (0.)
* 395 * (10,16) (1.)
* 396 * (17,24) (0.) ..
* 397 * FAN_WSB_C_D =DAY-SCHEDULE (1,8) (0.)
* 398 * (9,16) (1.)
* 399 * (17,24) (0.) ..
* 400 * FAN_WSB_D_D =DAY-SCHEDULE (1,8) (0.)
* 401 * (9,15) (1.)
* 402 * (16,24) (0.) ..
* 403 * FAN_WSBE_D =DAY-SCHEDULE (1,9) (0.)
* 404 * (10,14) (1.)
* 405 * (15,24) (0.) ..
* 406 * FAN_WSBF_D =DAY-SCHEDULE (1,9) (0.)
* 407 * (10,17) (1.)
* 408 * (18,24) (0.) ..
* 409 * FAN_WSBG_D =DAY-SCHEDULE (1,8) (0.)
* 410 * (9,16) (1.)
* 411 * (17,24) (0.) ..
* 412 * HT_WSBA_D =DAY-SCHEDULE (1,8) (50.)
* 413 * (9,18) (73.)
* 414 * (19,24) (50.) ..
* 415 * HT_WSBB_D =DAY-SCHEDULE (1,9) (50.)
* 416 * (10,16) (73.)
* 417 * (17,24) (50.) ..
* 418 * HT_WSBC_D =DAY-SCHEDULE (1,8) (50.)
* 419 * (9,16) (73.)
* 420 * (17,24) (50.) ..
* 421 * HT_WSBD_D =DAY-SCHEDULE (1,8) (50.)
* 422 * (9,15) (73.)
* 423 * (16,24) (50.) ..
* 424 * HT_WSBE_D =DAY-SCHEDULE (1,9) (50.)
* 425 * (10,14) (73.)
* 426 * (15,24) (50.) ..
* 427 * HT_WSBF_D =DAY-SCHEDULE (1,9) (50.)
* 428 * (10,17) (73.)
* 429 * (18,24) (50.) ..
* 430 * HT_WSBG_D =DAY-SCHEDULE (1,8) (50.)
* 431 * (9,16) (73.)
* 432 * (17,24) (50.) ..
* 433 * CL_WSBA_D =DAY-SCHEDULE (1,8) (85.)
* 434 * (9,18) (75.)
* 435 * (19,24) (85.) ..
* 436 * CL_WSBB_D =DAY-SCHEDULE (1,9) (85.)
* 437 * (10,16) (75.)
* 438 * (17,24) (85.) ..
* 439 * CL_WSBC_D =DAY-SCHEDULE (1,8) (85.)
* 440 * (9,16) (75.)
* 441 * (17,24) (85.) ..
* 442 * CL_WSBD_D =DAY-SCHEDULE (1,8) (85.)
* 443 * (9,15) (75.)
* 444 * (16,24) (85.) ..
* 445 * CL_WSBE_D =DAY-SCHEDULE (1,9) (85.)
* 446 * (10,14) (75.)
* 447 * (15,24) (85.) ..
* 448 * CL_WSBF_D =DAY-SCHEDULE (1,9) (85.)
* 449 * (10,17) (75.)
* 450 * (18,24) (85.) ..
* 451 * CL_WSBG_D =DAY-SCHEDULE (1,8) (85.)
* 452 * (9,16) (75.)
* 453 * (17,24) (85.) ..
* 454 *
* 455 * FULL_ON_W =WEEK-SCHEDULE (ALL) FULL_ON_D ..
* 456 *
* 457 * FULL_OFF_W =WEEK-SCHEDULE (ALL) FULL_OFF_D ..
* 458 *
* 459 * HEAT_70_W =WEEK-SCHEDULE (ALL) HEAT_68_D ..
* 460 *
* 461 * COOL_75_W =WEEK-SCHEDULE (ALL) COOL_75_D ..
* 462 *
* 463 * FAN_ON_W =WEEK-SCHEDULE (ALL) FAN_ON_D ..

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* 464 *
* 465 * FAN_WSB1_W =WEEK-SCHEDULE (WD) FAN_WSBA_D
* 466 * (SAT) FAN_WSBA_D
* 467 * (SUN) FAN_WSB_B_D
* 468 * (HOL) FAN_WSBA_D ..
* 469 *
* 470 * FAN_WSB2_W =WEEK-SCHEDULE (WD) FAN_WSBC_D
* 471 * (SAT) FAN_WSBD_D
* 472 * (SUN) FAN_WSBE_D
* 473 * (HOL) FAN_WSBC_D ..
* 474 *
* 475 * FAN_WSB3_W =WEEK-SCHEDULE (WD) FAN_WSBF_D
* 476 * (SAT) FAN_WSBG_D
* 477 * (SUN) FAN_WSBG_D
* 478 * (HOL) FAN_WSBF_D ..
* 479 *
* 480 * HT_WSB1_W =WEEK-SCHEDULE (WD) HT_WSBA_D
* 481 * (SAT) HT_WSBA_D
* 482 * (SUN) HT_WSB_B_D
* 483 * (HOL) HT_WSBA_D ..
* 484 *
* 485 * HT_WSB2_W =WEEK-SCHEDULE (WD) HT_WSBC_D
* 486 * (SAT) HT_WSBD_D
* 487 * (SUN) HT_WSBE_D
* 488 * (HOL) HT_WSBC_D ..
* 489 *
* 490 * HT_WSB3_W =WEEK-SCHEDULE (WD) HT_WSBF_D
* 491 * (SAT) HT_WSBG_D
* 492 * (SUN) HT_WSBG_D
* 493 * (HOL) HT_WSBF_D ..
* 494 *
* 495 * CL_WSB1_W =WEEK-SCHEDULE (WD) CL_WSBA_D
* 496 * (SAT) CL_WSBA_D
* 497 * (SUN) CL_WSB_B_D
* 498 * (HOL) CL_WSBA_D ..
* 499 *
* 500 * CL_WSB2_W =WEEK-SCHEDULE (WD) CL_WSBC_D
* 501 * (SAT) CL_WSBD_D
* 502 * (SUN) CL_WSBE_D
* 503 * (HOL) CL_WSBC_D ..
* 504 *
* 505 * CL_WSB3_W =WEEK-SCHEDULE (WD) CL_WSBE_D
* 506 * (SAT) CL_WSBF_D
* 507 * (SUN) CL_WSBF_D
* 508 * (HOL) CL_WSBE_D ..
* 509 *
* 510 *
* 511 * FULL_ON =SCHEDULE THRU DEC 31 FULL_ON_W ..
* 512 *
* 513 * FULL_OFF =SCHEDULE THRU DEC 31 FULL_OFF_W ..
* 514 *
* 515 * $ HEATING SCHEDULE
* 516 * HEAT_68_SC =SCHEDULE THRU DEC 31 HEAT_70_W ..
* 517 *
* 518 * $ COOLING SCHEDULE
* 519 * COOL_75_SC =SCHEDULE THRU DEC 31 COOL_75_W ..
* 520 *
* 521 * $ FAN SCHEDULE
* 522 * FAN_ON_SCD =SCHEDULE THRU DEC 31 FAN_ON_W ..
* 523 *
* 524 * $ SCHD FOR MAIN STORE
* 525 * FAN_WSB1 =SCHEDULE THRU DEC 31 FAN_WSB1_W ..
* 526 *
* 527 * $ SCHD FOR CLOTHING SALES
* 528 * FAN_WSB2 =SCHEDULE THRU DEC 31 FAN_WSB2_W ..
* 529 *
* 530 * $ SCHD FOR FOOD COURT
* 531 * FAN_WSB3 =SCHEDULE THRU DEC 31 FAN_WSB3_W ..
* 532 *
* 533 * $ SCHD FOR MAIN STORE
* 534 * HT68_WSB_1 =SCHEDULE THRU DEC 31 HT_WSB1_W ..
* 535 *
* 536 * $ SCHD FOR CLOTHING SALES
* 537 * HT68_WSB_2 =SCHEDULE THRU DEC 31 HT_WSB2_W ..
* 538 *
* 539 * $ SCHD FOR FOOD COURT
* 540 * HT68_WSB_3 =SCHEDULE THRU DEC 31 HT_WSB3_W ..
* 541 *
* 542 * $ SCHD FOR MAIN STORE
* 543 * CL75_WSB_1 =SCHEDULE THRU DEC 31 CL_WSB1_W ..
* 544 *
* 545 * $ SCHD FOR CLOTHING SALES
* 546 * CL75_WSB_2 =SCHEDULE THRU DEC 31 CL_WSB2_W ..
* 547 *
* 548 * $ SCHD FOR FOOD COURT
* 549 * CL75_WSB_3 =SCHEDULE THRU DEC 31 CL_WSB3_W ..
* 550 *
* 551 *
* 552 *
* 553 * $ ZONE DESCRIPTION
* 554 *
* 555 * RETAIL_SLS =ZONE DESIGN-HEAT-T = 70.0 DESIGN-COOL-T = 75.0
* 556 * HEAT-TEMP-SCH = HT68_WSB_1 COOL-TEMP-SCH = CL75_WSB_1
* 557 * ZONE-TYPE = CONDITIONED
* 558 * THERMOSTAT-TYPE = PROPORTIONAL THROTTLING-RANGE = 1.0
* 559 * BASEBOARD-CTRL = THERMOSTATIC ASSIGNED-CFM = 26700.
* 560 * OUTSIDE-AIR-CFM = 3290. SIZING-OPTION = FROM-LOADS
* 561 * RATED-CFM = 26700.0 MIN-CFM-RATIO = 1.0 ..
* 562 *
* 563 * MPA =ZONE DESIGN-HEAT-T = 70.0 DESIGN-COOL-T = 75.0
* 564 * HEAT-TEMP-SCH = HT68_WSB_1 COOL-TEMP-SCH = CL75_WSB_1
* 565 * ZONE-TYPE = CONDITIONED
* 566 * THERMOSTAT-TYPE = PROPORTIONAL THROTTLING-RANGE = 1.0
* 567 * BASEBOARD-CTRL = THERMOSTATIC
* 568 * BASEBOARD-RATING = -500000. ASSIGNED-CFM = 7800.
* 569 * OUTSIDE-AIR-CFM = 1388. SIZING-OPTION = FROM-LOADS
* 570 * RATED-CFM = 7800.0 MIN-CFM-RATIO = 1.0 ..
* 571 *

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* 572 * ADMIN      =ZONE  DESIGN-HEAT-T = 70.0  DESIGN-COOL-T = 75.0
* 573 *              HEAT-TEMP-SCH = HT68 WSB_1  COOL-TEMP-SCH = CL75_WSB_1
* 574 *              ZONE-TYPE = CONDITIONED
* 575 *              THERMOSTAT-TYPE = PROPORTIONAL  THROTTLING-RANGE = 1.0
* 576 *              BASEBOARD-CTRL = THERMOSTATIC  ASSIGNED-CFM = 4000.
* 577 *              OUTSIDE-AIR-CFM = 475.  SIZING-OPTION = FROM-LOADS
* 578 *              RATED-CFM = 4000.0  MIN-CFM-RATIO = 1.0  ..
* 579 *
* 580 * FAST_FOOD  =ZONE  DESIGN-HEAT-T = 70.0  DESIGN-COOL-T = 75.0
* 581 *              HEAT-TEMP-SCH = HT68 WSB_3  COOL-TEMP-SCH = CL75_WSB_3
* 582 *              ZONE-TYPE = CONDITIONED
* 583 *              THERMOSTAT-TYPE = PROPORTIONAL  THROTTLING-RANGE = 1.0
* 584 *              BASEBOARD-CTRL = THERMOSTATIC
* 585 *              BASEBOARD-RATING = -11500000.  ASSIGNED-CFM = 8470.
* 586 *              OUTSIDE-AIR-CFM = 4250.  SIZING-OPTION = FROM-LOADS
* 587 *              RATED-CFM = 8470.0  MIN-CFM-RATIO = 1.0  ..
* 588 *
* 589 * MALL        =ZONE  DESIGN-HEAT-T = 70.0  DESIGN-COOL-T = 75.0
* 590 *              HEAT-TEMP-SCH = HT68 WSB_1  COOL-TEMP-SCH = CL75_WSB_1
* 591 *              ZONE-TYPE = CONDITIONED
* 592 *              THERMOSTAT-TYPE = PROPORTIONAL  THROTTLING-RANGE = 1.0
* 593 *              BASEBOARD-CTRL = THERMOSTATIC
* 594 *              BASEBOARD-RATING = -1811500.  ASSIGNED-CFM = 9650.
* 595 *              OUTSIDE-AIR-CFM = 850.  SIZING-OPTION = FROM-LOADS
* 596 *              RATED-CFM = 9650.0  MIN-CFM-RATIO = 1.0  ..
* 597 *
* 598 * BEAUTY      =ZONE  DESIGN-HEAT-T = 70.0  DESIGN-COOL-T = 75.0
* 599 *              HEAT-TEMP-SCH = HT68 WSB_1  COOL-TEMP-SCH = CL75_WSB_1
* 600 *              ZONE-TYPE = CONDITIONED
* 601 *              THERMOSTAT-TYPE = PROPORTIONAL  THROTTLING-RANGE = 1.0
* 602 *              BASEBOARD-CTRL = THERMOSTATIC
* 603 *              BASEBOARD-RATING = -500000.  ASSIGNED-CFM = 1837.
* 604 *              OUTSIDE-AIR-CFM = 200.  SIZING-OPTION = FROM-LOADS
* 605 *              RATED-CFM = 1837.0  MIN-CFM-RATIO = 1.0  ..
* 606 *
* 607 * BARBER      =ZONE  DESIGN-HEAT-T = 70.0  DESIGN-COOL-T = 75.0
* 608 *              HEAT-TEMP-SCH = HT68 WSB_1  COOL-TEMP-SCH = CL75_WSB_1
* 609 *              ZONE-TYPE = CONDITIONED
* 610 *              THERMOSTAT-TYPE = PROPORTIONAL  THROTTLING-RANGE = 1.0
* 611 *              BASEBOARD-CTRL = THERMOSTATIC  ASSIGNED-CFM = 1000.
* 612 *              OUTSIDE-AIR-CFM = 100.  SIZING-OPTION = FROM-LOADS
* 613 *              RATED-CFM = 1000.0  MIN-CFM-RATIO = 1.0  ..
* 614 *
* 615 * MCSS_SALES =ZONE  DESIGN-HEAT-T = 70.0  DESIGN-COOL-T = 75.0
* 616 *              HEAT-TEMP-SCH = HT68 WSB_2  COOL-TEMP-SCH = CL75_WSB_2
* 617 *              ZONE-TYPE = CONDITIONED
* 618 *              THERMOSTAT-TYPE = PROPORTIONAL  THROTTLING-RANGE = 1.0
* 619 *              BASEBOARD-CTRL = THERMOSTATIC
* 620 *              BASEBOARD-RATING = -1000000.  ASSIGNED-CFM = 6576.
* 621 *              OUTSIDE-AIR-CFM = 776.  SIZING-OPTION = FROM-LOADS
* 622 *              RATED-CFM = 6576.0  MIN-CFM-RATIO = 1.0  ..
* 623 *
* 624 * MCSS_MPAQ  =ZONE  DESIGN-HEAT-T = 70.0  DESIGN-COOL-T = 75.0
* 625 *              HEAT-TEMP-SCH = HT68 WSB_2  COOL-TEMP-SCH = CL75_WSB_2
* 626 *              ZONE-TYPE = CONDITIONED
* 627 *              THERMOSTAT-TYPE = PROPORTIONAL  THROTTLING-RANGE = 1.0
* 628 *              BASEBOARD-CTRL = THERMOSTATIC
* 629 *              BASEBOARD-RATING = -56000.  ASSIGNED-CFM = 3850.
* 630 *              OUTSIDE-AIR-CFM = 533.  SIZING-OPTION = FROM-LOADS
* 631 *              RATED-CFM = 3850.0  MIN-CFM-RATIO = 1.0  ..
* 632 *
* 633 * GARDEN_SLS =ZONE  DESIGN-HEAT-T = 70.0  DESIGN-COOL-T = 75.0
* 634 *              HEAT-TEMP-SCH = HT68 WSB_1  COOL-TEMP-SCH = CL75_WSB_1
* 635 *              ZONE-TYPE = CONDITIONED
* 636 *              THERMOSTAT-TYPE = PROPORTIONAL  THROTTLING-RANGE = 1.0
* 637 *              BASEBOARD-CTRL = THERMOSTATIC  ASSIGNED-CFM = 1800.
* 638 *              OUTSIDE-AIR-CFM = 180.  SIZING-OPTION = FROM-LOADS
* 639 *              RATED-CFM = 1800.0  MIN-CFM-RATIO = 1.0  ..
* 640 *
* 641 *
* 642 * $ SYSTEM DESCRIPTION
* 643 *
* 644 * AHU_1        =SYSTEM  SYSTEM-TYPE = SZRH
* 645 *              MAX-SUPPLY-T = 135.0  MIN-SUPPLY-T = 55.0
* 646 *              HEAT-SET-T = 135.0  MIN-HUMIDITY = 30.0
* 647 *              ECONO-LIMIT-T = 65.0  ECONO-LOW-LIMIT = 55.0
* 648 *              OA-CONTROL = FIXED  SUPPLY-CFM = 26700.
* 649 *              RETURN-CFM = 23410.  RATED-CFM = 26700.
* 650 *              MIN-OUTSIDE-AIR = 0.12  MAX-OA-FRACTION = 0.88
* 651 *              FAN-SCHEDULE = FAN WSB1  SUPPLY-STATIC = 4.0
* 652 *              SUPPLY-EFF = 0.6  MOTOR-PLACEMENT = OUTSIDE-AIRFLOW
* 653 *              NIGHT-CYCLE-CTRL = CYCLE-ON-ANY  NIGHT-VENT-DT = 0.0
* 654 *              MIN-CFM-RATIO = 1.0  COOLING-CAPACITY = 870000.
* 655 *              HEATING-CAPACITY = -595000.  FURNACE-AUX = 0.
* 656 *              PREHEAT-SOURCE = HOT-WATER
* 657 *              ZONE-NAMES = (RETAIL_SLS)  ..
* 658 *
* 659 * AHU_2        =SYSTEM  SYSTEM-TYPE = SZRH
* 660 *              MAX-SUPPLY-T = 135.0  MIN-SUPPLY-T = 55.0
* 661 *              HEAT-SET-T = 135.0  MIN-HUMIDITY = 30.0
* 662 *              ECONO-LIMIT-T = 65.0  ECONO-LOW-LIMIT = 55.0
* 663 *              OA-CONTROL = FIXED  SUPPLY-CFM = 7800.
* 664 *              RETURN-CFM = 6412.  RATED-CFM = 7800.
* 665 *              MIN-OUTSIDE-AIR = 0.18  MAX-OA-FRACTION = 0.82
* 666 *              FAN-SCHEDULE = FAN WSB1  SUPPLY-STATIC = 3.5
* 667 *              SUPPLY-EFF = 0.6  MOTOR-PLACEMENT = OUTSIDE-AIRFLOW
* 668 *              NIGHT-CYCLE-CTRL = CYCLE-ON-ANY  NIGHT-VENT-DT = 0.0
* 669 *              MIN-CFM-RATIO = 1.0  COOLING-CAPACITY = 199600.
* 670 *              HEATING-CAPACITY = -323500.  FURNACE-AUX = 0.
* 671 *              PREHEAT-SOURCE = HOT-WATER
* 672 *              ZONE-NAMES = (MPA)  ..
* 673 *
* 674 * AHU_3        =SYSTEM  SYSTEM-TYPE = SZRH
* 675 *              MAX-SUPPLY-T = 135.0  MIN-SUPPLY-T = 55.0
* 676 *              HEAT-SET-T = 55.0  PREHEAT-T = 20.0
* 677 *              MIN-HUMIDITY = 30.0  ECONO-LIMIT-T = 65.0
* 678 *              ECONO-LOW-LIMIT = 55.0  OA-CONTROL = FIXED
* 679 *              SUPPLY-CFM = 4000.  RETURN-CFM = 3525.

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* 680 *      RATED-CFM = 4000. MIN-OUTSIDE-AIR = 0.12
* 681 *      MAX-OA-FRACTION = 0.88 FAN-SCHEDULE = FAN_WSB1
* 682 *      SUPPLY-STATIC = 3.75 SUPPLY-EFF = 0.6
* 683 *      MOTOR-PLACEMENT = OUTSIDE-AIRFLOW
* 684 *      NIGHT-CYCLE-CTRL = CYCLE-ON-ANY NIGHT-VENT-DT = 0.0
* 685 *      MIN-CFM-RATIO = 1.0 REHEAT-DELTA-T = 30.
* 686 *      COOLING-CAPACITY = 120500.
* 687 *      HEATING-CAPACITY = -105000. FURNACE-AUX = 0.
* 688 *      ZONE-NAMES = (ADMIN) ..
* 689 *
* 690 * AHU_5      =SYSTEM  SYSTEM-TYPE = SZRH
* 691 *      MAX-SUPPLY-T = 135.0 MIN-SUPPLY-T = 55.0
* 692 *      HEAT-SET-T = 55.0 PREHEAT-T = 55.0
* 693 *      MIN-HUMIDITY = 30.0 ECONO-LIMIT-T = 65.0
* 694 *      ECONO-LOW-LIMIT = 55.0 OA-CONTROL = FIXED
* 695 *      SUPPLY-CFM = 9650. RETURN-CFM = 8800.
* 696 *      RATED-CFM = 9650. MIN-OUTSIDE-AIR = 0.1
* 697 *      MAX-OA-FRACTION = 0.9 FAN-SCHEDULE = FAN_WSB1
* 698 *      SUPPLY-STATIC = 3.75 SUPPLY-EFF = 0.6
* 699 *      MOTOR-PLACEMENT = OUTSIDE-AIRFLOW
* 700 *      NIGHT-CYCLE-CTRL = CYCLE-ON-ANY NIGHT-VENT-DT = 0.0
* 701 *      MIN-CFM-RATIO = 1.0 REHEAT-DELTA-T = 30.
* 702 *      COOLING-CAPACITY = 197580.
* 703 *      HEATING-CAPACITY = -207300. FURNACE-AUX = 0.
* 704 *      ZONE-NAMES = (MALL) ..
* 705 *
* 706 * AHU_4      =SYSTEM  SYSTEM-TYPE = SZRH
* 707 *      MAX-SUPPLY-T = 135.0 MIN-SUPPLY-T = 55.0
* 708 *      HEAT-SET-T = 135.0 MIN-HUMIDITY = 30.0
* 709 *      ECONO-LIMIT-T = 65.0 ECONO-LOW-LIMIT = 55.0
* 710 *      OA-CONTROL = FIXED SUPPLY-CFM = 8470.
* 711 *      RETURN-CFM = 4220. RATED-CFM = 8470.
* 712 *      MIN-OUTSIDE-AIR = 0.5 MAX-OA-FRACTION = 0.91
* 713 *      FAN-SCHEDULE = FAN_WSB3 SUPPLY-STATIC = 3.5
* 714 *      SUPPLY-EFF = 0.6 MOTOR-PLACEMENT = OUTSIDE-AIRFLOW
* 715 *      NIGHT-CYCLE-CTRL = CYCLE-ON-ANY NIGHT-VENT-DT = 0.0
* 716 *      MIN-CFM-RATIO = 1.0 COOLING-CAPACITY = 283500.
* 717 *      HEATING-CAPACITY = -189400. FURNACE-AUX = 0.
* 718 *      PREHEAT-SOURCE = HOT-WATER
* 719 *      ZONE-NAMES = (FAST_FOOD) ..
* 720 *
* 721 * AHU_6      =SYSTEM  SYSTEM-TYPE = SZRH
* 722 *      MAX-SUPPLY-T = 135.0 MIN-SUPPLY-T = 55.0
* 723 *      HEAT-SET-T = 135.0 MIN-HUMIDITY = 30.0
* 724 *      ECONO-LIMIT-T = 65.0 ECONO-LOW-LIMIT = 55.0
* 725 *      OA-CONTROL = FIXED SUPPLY-CFM = 1837.
* 726 *      RETURN-CFM = 1637. RATED-CFM = 1837.
* 727 *      MIN-OUTSIDE-AIR = 0.12 MAX-OA-FRACTION = 0.88
* 728 *      FAN-SCHEDULE = FAN_WSB1 SUPPLY-STATIC = 2.75
* 729 *      SUPPLY-EFF = 0.6 MOTOR-PLACEMENT = OUTSIDE-AIRFLOW
* 730 *      NIGHT-CYCLE-CTRL = CYCLE-ON-ANY NIGHT-VENT-DT = 0.0
* 731 *      MIN-CFM-RATIO = 1.0 COOLING-CAPACITY = 71000.
* 732 *      HEATING-CAPACITY = -30700. FURNACE-AUX = 0.
* 733 *      PREHEAT-SOURCE = HOT-WATER
* 734 *      ZONE-NAMES = (BEAUTY) ..
* 735 *
* 736 * AHU_7      =SYSTEM  SYSTEM-TYPE = SZRH
* 737 *      MAX-SUPPLY-T = 135.0 MIN-SUPPLY-T = 55.0
* 738 *      HEAT-SET-T = 135.0 MIN-HUMIDITY = 30.0
* 739 *      ECONO-LIMIT-T = 65.0 ECONO-LOW-LIMIT = 55.0
* 740 *      OA-CONTROL = FIXED SUPPLY-CFM = 1000.
* 741 *      RETURN-CFM = 900. RATED-CFM = 1000.
* 742 *      MIN-OUTSIDE-AIR = 0.12 MAX-OA-FRACTION = 0.89
* 743 *      FAN-SCHEDULE = FAN_WSB1 SUPPLY-STATIC = 2.75
* 744 *      SUPPLY-EFF = 0.6 MOTOR-PLACEMENT = OUTSIDE-AIRFLOW
* 745 *      NIGHT-CYCLE-CTRL = CYCLE-ON-ANY NIGHT-VENT-DT = 0.0
* 746 *      MIN-CFM-RATIO = 1.0 COOLING-CAPACITY = 20900.
* 747 *      HEATING-CAPACITY = -22450. FURNACE-AUX = 0.
* 748 *      PREHEAT-SOURCE = HOT-WATER
* 749 *      ZONE-NAMES = (BARBER) ..
* 750 *
* 751 * AHU_8      =SYSTEM  SYSTEM-TYPE = SZRH
* 752 *      MAX-SUPPLY-T = 135.0 MIN-SUPPLY-T = 55.0
* 753 *      HEAT-SET-T = 135.0 MIN-HUMIDITY = 30.0
* 754 *      ECONO-LIMIT-T = 65.0 ECONO-LOW-LIMIT = 55.0
* 755 *      OA-CONTROL = FIXED SUPPLY-CFM = 6576.
* 756 *      RETURN-CFM = 5800. RATED-CFM = 6576.
* 757 *      MIN-OUTSIDE-AIR = 0.12 MAX-OA-FRACTION = 0.88
* 758 *      FAN-SCHEDULE = FAN_WSB2 SUPPLY-STATIC = 3.5
* 759 *      SUPPLY-EFF = 0.6 MOTOR-PLACEMENT = OUTSIDE-AIRFLOW
* 760 *      NIGHT-CYCLE-CTRL = CYCLE-ON-ANY NIGHT-VENT-DT = 0.0
* 761 *      MIN-CFM-RATIO = 1.0 COOLING-CAPACITY = 214000.
* 762 *      HEATING-CAPACITY = -111100. FURNACE-AUX = 0.
* 763 *      PREHEAT-SOURCE = HOT-WATER
* 764 *      ZONE-NAMES = (MCSS_SALES) ..
* 765 *
* 766 * AHU_9      =SYSTEM  SYSTEM-TYPE = SZRH
* 767 *      MAX-SUPPLY-T = 135.0 MIN-SUPPLY-T = 55.0
* 768 *      HEAT-SET-T = 135.0 MIN-HUMIDITY = 30.0
* 769 *      ECONO-LIMIT-T = 65.0 ECONO-LOW-LIMIT = 55.0
* 770 *      OA-CONTROL = FIXED SUPPLY-CFM = 3850.
* 771 *      RETURN-CFM = 3317. RATED-CFM = 3850.
* 772 *      MIN-OUTSIDE-AIR = 0.14 MAX-OA-FRACTION = 0.86
* 773 *      FAN-SCHEDULE = FAN_WSB2 SUPPLY-STATIC = 2.5
* 774 *      SUPPLY-EFF = 0.6 MOTOR-PLACEMENT = OUTSIDE-AIRFLOW
* 775 *      NIGHT-CYCLE-CTRL = CYCLE-ON-ANY NIGHT-VENT-DT = 0.0
* 776 *      MIN-CFM-RATIO = 1.0 COOLING-CAPACITY = 96900.
* 777 *      HEATING-CAPACITY = -163100. FURNACE-AUX = 0.
* 778 *      PREHEAT-SOURCE = HOT-WATER
* 779 *      ZONE-NAMES = (MCSS_MPAQ) ..
* 780 *
* 781 * AHU_10     =SYSTEM  SYSTEM-TYPE = SZRH
* 782 *      MAX-SUPPLY-T = 135.0 MIN-SUPPLY-T = 55.0
* 783 *      HEAT-SET-T = 135.0 MIN-HUMIDITY = 30.0
* 784 *      ECONO-LIMIT-T = 65.0 ECONO-LOW-LIMIT = 55.0
* 785 *      OA-CONTROL = FIXED SUPPLY-CFM = 1800.
* 786 *      RETURN-CFM = 1620. RATED-CFM = 1800.
* 787 *      MIN-OUTSIDE-AIR = 0.1 FAN-SCHEDULE = FAN_WSB1

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* 788 *          SUPPLY-STATIC = 2.5  SUPPLY-EFF = 0.6
* 789 *          MOTOR-PLACEMENT = OUTSIDE-AIRFLOW
* 790 *          NIGHT-CYCLE-CTRL = CYCLE-ON-ANY  NIGHT-VENT-DT = 0.0
* 791 *          MIN-CFM-RATIO = 1.0  COOLING-CAPACITY = 62700.
* 792 *          HEATING-CAPACITY = -65500.  FURNACE-AUX = 0.
* 793 *          PREHEAT-SOURCE = HOT-WATER
* 794 *          ZONE-NAMES = (GARDEN_SLS)  ..
* 795 *
* 796 * END  ..
* 797 * COMPUTE SYSTEMS  ..
* 798 *
* 799 * INPUT PLANT  ..
```

P D L P R O C E S S O R I N P U T D A T A

3/27/1995 12:37: 6 PDL RUN 1

```

* 800 *
* 801 *
* 802 *
* 803 * $-----$
* 804 * $ E Z - D O E P L A N T S I N P U T $
* 805 * $-----$
* 806 *
* 807 * $ GENERAL PROJECT DATA
* 808 *
* 808 * TITLE LINE-1 * EMC ENGINEERS INC. *
* 809 * LINE-2 *EZDOE - ELITE SOFTWARE DEVELOPMENT INC*
* 810 * LINE-3 * DENVER, CO 80227 *
* 811 *
* 812 * LINE-4 *BLDG 10730 EXCHANGE MAIN RETAIL AND *
* 813 * LINE-5 *CLOTHING SALES STORE-MODEL WITH SET BACK* ..
* 814 *
* 815 * ABORT ERRORS ..
* 816 * DIAGNOSTIC WARNINGS ..
* 817 * PLANT-REPORT SUMMARY=(PS-A,PS-B,BEPS)
* 818 * ..
* 819 *
* 820 * $ SCHEDULES
* 821 *
* 822 * FULL_ON_D =DAY-SCHEDULE (1,24) (1.) ..
* 823 *
* 824 *
* 825 * FULL_ON_W =WEEK-SCHEDULE (ALL) FULL_ON_D ..
* 826 *
* 827 *
* 828 * FULL_ON =SCHEDULE THRU DEC 31 FULL_ON_W ..
* 829 *
* 830 *
* 831 *
* 832 * $ EQUIPMENT DESCRIPTION
* 833 *
* 834 * HTHW_HX =PLANT-EQUIPMENT TYPE = HTANK-STORAGE
* 835 * SIZE = 2.1 ..
* 836 *
* 837 * ACC1&2 =PLANT-EQUIPMENT TYPE = OPEN-REC-CHLR
* 838 * SIZE = 1.1 INSTALLED-NUMBER = 2
* 839 * MAX-NUMBER-AVAIL = 2 ..
* 840 *
* 841 * PLANT-PARAMETERS OPEN-REC-COND-TYPE = AIR CHILL-WTR-T = 43.
* 842 * CCIRC-IMPELLER-EFF = 0.67 CCIRC-HEAD = 100.0
* 843 * HCIRC-IMPELLER-EFF = 0.73 HCIRC-HEAD = 95.0 ..
* 844 *
* 845 *
* 846 * ENERGY-RESOURCE RESOURCE = ELECTRICITY ..
* 847 * ENERGY-RESOURCE RESOURCE = STEAM ..
* 848 * ENERGY-RESOURCE RESOURCE = NATURAL-GAS ..
* 849 *
* 850 * ENERGY-STORAGE HEAT-STORE-RATE = 2.11 HEAT-SUPPLY-RATE = 2.11
* 851 * HTANK-BASE-T = 195.0 HTANK-T-RANGE = 5.0
* 852 * HEAT-STORE-SCH = FULL_ON ..
* 853 *
* 854 * HEAT-RECOVERY
* 855 * SUPPLY-1 = (HTANK-STORAGE)
* 856 * DEMAND-1 = (SPACE-HEAT,PROCESS-HEAT) ..
* 857 *
* 858 *
* 859 *
* 860 * END ..
* 861 * COMPUTE PLANT ..
* 862 * STOP ..

```

ENERGY TYPE IN SITE MBTU-	STEAM	ELECTRICITY	NATURAL-GAS
CATEGORY OF USE			
SPACE HEAT	3,835.56	0.00	0.00
SPACE COOL	0.00	228.53	0.00
HVAC AUX	0.00	816.86	0.00
DOM HOT WTR	0.00	0.00	0.00
AUX SOLAR	0.00	0.00	0.00
LIGHTS	0.00	1,539.30	0.00
VERT TRANS	0.00	0.00	0.00
MISC EQUIP	0.00	464.57	8,549.75
	-----	-----	-----
TOTAL	3,835.56	3,049.26	8,549.75

TOTAL SITE ENERGY 15435.62 MBTU 199.0 KBTU/SQFT-YR GROSS-AREA 199.0 KBTU/SQFT-YR NET-AREA  
 TOTAL SOURCE ENERGY 24100.51 MBTU 310.7 KBTU/SQFT-YR GROSS-AREA 310.7 KBTU/SQFT-YR NET-AREA

PERCENT OF HOURS ANY SYSTEM ZONE OUTSIDE OF THROTTLING RANGE = 23.6  
 PERCENT OF HOURS ANY PLANT LOAD NOT SATISFIED = 0.0

NOTE ELECTRICITY AND/OR FUEL USED TO GENERATE ELECTRICITY IS APPORTIONED BASED  
 ON THE YEARLY DEMAND. ALL OTHER ENERGY TYPES ARE APPORTIONED HOURLY.

MO	UTILITY-	STEAM	ELECTRICITY	NATURAL-GAS
	TOTAL (MBTU)	865.115	230.728	726.225
JAN	PEAK (KBTU)	5816.151	584.145	976.107
	DY/HR	6/11	31/16	31/24
	TOTAL (MBTU)	606.526	208.566	655.944
FEB	PEAK (KBTU)	5643.485	584.145	976.107
	DY/HR	5/ 9	28/16	28/24
	TOTAL (MBTU)	620.603	231.738	726.225
MAR	PEAK (KBTU)	5490.422	650.024	976.107
	DY/HR	27/10	18/13	31/24
	TOTAL (MBTU)	345.839	235.770	702.798
APR	PEAK (KBTU)	4715.624	707.858	976.107
	DY/HR	1/ 9	15/14	30/ 1
	TOTAL (MBTU)	194.416	260.558	726.225
MAY	PEAK (KBTU)	4341.409	785.223	976.107
	DY/HR	3/ 9	31/16	31/ 1
	TOTAL (MBTU)	31.718	275.184	702.798
JUN	PEAK (KBTU)	1578.379	853.866	976.107
	DY/HR	7/ 9	28/16	30/ 1
	TOTAL (MBTU)	8.491	313.753	726.225
JUL	PEAK (KBTU)	894.567	1126.592	976.107
	DY/HR	10/10	18/15	31/ 1
	TOTAL (MBTU)	14.033	298.902	726.225
AUG	PEAK (KBTU)	866.596	1023.721	976.107
	DY/HR	25/ 9	9/16	31/ 1
	TOTAL (MBTU)	57.388	275.388	702.798
SEP	PEAK (KBTU)	2474.346	1109.845	976.107
	DY/HR	14/ 9	4/14	30/ 1
	TOTAL (MBTU)	174.184	254.488	726.225
OCT	PEAK (KBTU)	3583.340	723.967	976.107
	DY/HR	25/ 9	8/15	31/24
	TOTAL (MBTU)	338.510	231.205	702.798
NOV	PEAK (KBTU)	4913.322	687.452	976.107
	DY/HR	27/10	1/10	30/24
	TOTAL (MBTU)	578.741	233.065	726.225
DEC	PEAK (KBTU)	5460.505	680.626	976.107
	DY/HR	25/10	9/13	31/24
	ONE YEAR	3835.565	3049.346	8550.711
	USE/PEAK	5816.151	1126.592	976.107

**COMPUTER SIMULATIONS**  
**BUILDING 10730**

**RUN 2 - ECONOMIZER**



# LDL PROCESSOR INPUT DATA

3/18/1995 11: 8:39 LDL RUN 1

```

* 3 *
* 4 *
* 5 *
* 6 *      $-----$
* 7 *      $EZ - DOE LOADS INPUTS$
* 8 *      $-----$
* 9 *
* 10 *      $ GENERAL PROJECT DATA
* 11 * TITLE LINE-1 * EMC ENGINEERS INC. *
* 12 * LINE-2 *EZDOE - ELITE SOFTWARE DEVELOPMENT INC*
* 13 * LINE-3 * DENVER, CO 80227 *
* 14 *
* 15 * LINE-4 *BLDG 10730 EXCHANGE MAIN RETAIL AND *
* 16 * LINE-5 *CLOTHING,MODEL W SET BACK & ECONOMIZER * ..
* 17 *
* 18 * ABORT ERRORS ..
* 19 * DIAGNOSTIC WARNINGS ..
* 20 * BUILDING-LOCATION X-REF = 0.0
* 21 * Y-REF = 0.0 ..
* 22 * RUN-PERIOD JAN 1 1994 THRU DEC 31 1994 ..
* 23 *
* 24 *
* 25 *      $ SCHEDULES
* 26 *
* 27 * FULL_OFF_D =DAY-SCHEDULE (1,24) (0.) ..
* 28 *
* 29 * PEOPLE_D =DAY-SCHEDULE (1,6) (0.)
* 30 * (7,9) (0.1,0.2,0.4)
* 31 * (10,14) (0.7)
* 32 * (15,18) (0.9)
* 33 * (19,20) (1.)
* 34 * (21,22) (0.2)
* 35 * (23,24) (0.1) ..
* 36 *
* 37 * LIGHT_ON_D =DAY-SCHEDULE (1,2) (0.2)
* 38 * (3,6) (0.1)
* 39 * (7) (0.2)
* 40 * (8,9) (0.3)
* 41 * (10,17) (0.9)
* 42 * (18,19) (0.6)
* 43 * (20) (0.5)
* 44 * (21,22) (0.4)
* 45 * (23,24) (0.3,0.2) ..
* 46 *
* 47 * FULL_ON_D =DAY-SCHEDULE (1,24) (1.) ..
* 48 *
* 49 *
* 50 * FULL_OFF_W =WEEK-SCHEDULE (ALL) FULL_OFF_D ..
* 51 *
* 52 * PEOPLE_W =WEEK-SCHEDULE (ALL) PEOPLE_D ..
* 53 *
* 54 * LIGHT_ON_W =WEEK-SCHEDULE (ALL) LIGHT_ON_D ..
* 55 *
* 56 * FULL_ON_W =WEEK-SCHEDULE (ALL) FULL_ON_D ..
* 57 *
* 58 *
* 59 * FULL_ON =SCHEDULE THRU DEC 31 FULL_ON_W ..
* 60 *
* 61 * FULL_OFF =SCHEDULE THRU DEC 31 FULL_OFF_W ..
* 62 *
* 63 * $ OCCUPANCY SCHEDULE
* 64 * PEOPLE_Y =SCHEDULE THRU DEC 31 PEOPLE_W ..
* 65 *
* 66 * $ LIGHTING SCHEDULE
* 67 * LIGHT_ON_Y =SCHEDULE THRU DEC 31 LIGHT_ON_W ..
* 68 *
* 69 *
* 70 *
* 71 *      $ CONSTRUCTION TYPES
* 72 *
* 73 *
* 74 *
* 75 * FLOORCON =CONSTRUCTION U-VALUE = 0.100 ..
* 76 * ROOF_CON =CONSTRUCTION U-VALUE = 0.050 ..
* 77 * WALL_CON =CONSTRUCTION U-VALUE = 0.200 ..
* 78 * DOOR_CON =CONSTRUCTION U-VALUE = 1.000 ..
* 79 * INWALL =CONSTRUCTION U-VALUE = 20.000 ..
* 80 *
* 81 * G_TYPE1 =GLASS-TYPE GLASS-TYPE-CODE = 1
* 82 * PANES = 1
* 83 * GLASS-CONDUCTANCE = 1.130 ..
* 84 *
* 85 *
* 86 *
* 87 *
* 88 *      $ SPACE DESCRIPTION
* 89 *
* 90 * RETAIL_SLS =SPACE AREA = 28176.0 VOLUME = 228112.0
* 91 * AZIMUTH = 240 ZONE-TYPE = CONDITIONED
* 92 * PEOPLE-SCHEDULE = PEOPLE_Y NUMBER-OF-PEOPLE = 200.0
* 93 * PEOPLE-HEAT-GAIN = 550.0
* 94 * LIGHTING-TYPE = REC-FLUOR-RV LIGHTING-W/SQFT = 1.35
* 95 * LIGHTING-SCHEDULE = LIGHT_ON_Y
* 96 * INF-METHOD = AIR-CHANGE AIR-CHANGES/HR = 0.5
* 97 * INF-SCHEDULE = FULL_ON ..
* 98 *
* 99 * U-W HEIGHT = 127.0 WIDTH = 222.0 CONS = FLOORCON
* 100 * AZIMUTH = 240 ..
* 101 *
* 102 * ROOF HEIGHT = 127.0 WIDTH = 222.0 CONS = ROOF_CON

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```

* 103 *          AZIMUTH = 240  TILT = 0  ..
* 104 *
* 105 *      E-W      HEIGHT = 12.0  WIDTH = 104.0  CONS = WALL_CON
* 106 *          AZIMUTH = 150  ..
* 107 *
* 108 *      DOOR     HEIGHT = 7.5  WIDTH = 3.0  CONS = DOOR_CON
* 109 *          MULTIPLIER = 2.0  ..
* 110 *
* 111 *      E-W      HEIGHT = 12.0  WIDTH = 52.0  CONS = WALL_CON
* 112 *          AZIMUTH = 60  ..
* 113 *
* 114 *      E-W      HEIGHT = 12.0  WIDTH = 127.0  CONS = WALL_CON
* 115 *          AZIMUTH = 330  ..
* 116 *
* 117 *      DOOR     HEIGHT = 7.5  WIDTH = 3.0  CONS = DOOR_CON ..
* 118 *
* 119 *      I-W      HEIGHT = 12.0  WIDTH = 1000.0  CONS = INWALL
* 120 *          AZIMUTH = 240  NEXT-TO = MALL  ..
* 121 *
* 122 *
* 123 * MPA      =SPACE  AREA = 13803.0  VOLUME = 165636.0
* 124 *          AZIMUTH = 240  ZONE-TYPE = CONDITIONED
* 125 *          PEOPLE-SCHEDULE = PEOPLE_Y  NUMBER-OF-PEOPLE = 40.0
* 126 *          PEOPLE-HEAT-GAIN = 550.0
* 127 *          LIGHTING-TYPE = REC-FLUOR-RV  LIGHTING-W/SQFT = 1.35
* 128 *          LIGHTING-SCHEDULE = LIGHT_ON_Y
* 129 *          INF-METHOD = AIR-CHANGE  AIR-CHANGES/HR = 0.5
* 130 *          INF-SCHEDULE = FULL_ON  ..
* 131 *
* 132 *      U-W      HEIGHT = 85.0  WIDTH = 163.0  CONS = FLOORCON
* 133 *          AZIMUTH = 240  ..
* 134 *
* 135 *      ROOF     HEIGHT = 85.0  WIDTH = 163.0  CONS = ROOF_CON
* 136 *          AZIMUTH = 240  TILT = 0  ..
* 137 *
* 138 *      E-W      HEIGHT = 12.0  WIDTH = 64.0  CONS = WALL_CON
* 139 *          AZIMUTH = 150  ..
* 140 *
* 141 *      DOOR     HEIGHT = 7.5  WIDTH = 3.0  CONS = DOOR_CON
* 142 *          MULTIPLIER = 2.0  ..
* 143 *
* 144 *      E-W      HEIGHT = 12.0  WIDTH = 163.0  CONS = WALL_CON
* 145 *          AZIMUTH = 240  ..
* 146 *
* 147 *      DOOR     HEIGHT = 7.5  WIDTH = 3.0  CONS = DOOR_CON ..
* 148 *
* 149 *
* 150 * ADMIN    =SPACE  AREA = 4640.0  VOLUME = 46400.0
* 151 *          AZIMUTH = 240  ZONE-TYPE = CONDITIONED
* 152 *          PEOPLE-SCHEDULE = PEOPLE_Y  NUMBER-OF-PEOPLE = 100.0
* 153 *          PEOPLE-HEAT-GAIN = 550.0
* 154 *          LIGHTING-TYPE = REC-FLUOR-RV  LIGHTING-W/SQFT = 1.35
* 155 *          LIGHTING-SCHEDULE = LIGHT_ON_Y
* 156 *          INF-METHOD = AIR-CHANGE  AIR-CHANGES/HR = 0.5
* 157 *          INF-SCHEDULE = FULL_ON  ..
* 158 *
* 159 *      U-W      HEIGHT = 64.0  WIDTH = 73.0  CONS = FLOORCON
* 160 *          AZIMUTH = 240  ..
* 161 *
* 162 *      ROOF     HEIGHT = 64.0  WIDTH = 73.0  CONS = ROOF_CON
* 163 *          AZIMUTH = 240  TILT = 0  ..
* 164 *
* 165 *      E-W      HEIGHT = 10.0  WIDTH = 64.0  CONS = WALL_CON
* 166 *          AZIMUTH = 330  ..
* 167 *
* 168 *      DOOR     HEIGHT = 7.5  WIDTH = 3.0  CONS = DOOR_CON ..
* 169 *
* 170 *      I-W      HEIGHT = 10.0  WIDTH = 10.0  CONS = INWALL
* 171 *          AZIMUTH = 240  NEXT-TO = MCSS_SALES  ..
* 172 *
* 173 *
* 174 * FAST_FOOD  =SPACE  AREA = 4860.0  VOLUME = 58320.0
* 175 *          AZIMUTH = 240  ZONE-TYPE = CONDITIONED
* 176 *          PEOPLE-SCHEDULE = PEOPLE_Y  NUMBER-OF-PEOPLE = 100.0
* 177 *          PEOPLE-HEAT-GAIN = 550.0
* 178 *          LIGHTING-TYPE = REC-FLUOR-RV  LIGHTING-W/SQFT = 1.35
* 179 *          LIGHTING-SCHEDULE = LIGHT_ON_Y
* 180 *          EQUIP-SCHEDULE = FULL_ON  EQUIPMENT-KW = 15.54
* 181 *          EQUIP-SENSIBLE = 0.0  SOURCE-SCHEDULE = FULL_ON
* 182 *          SOURCE-TYPE = GAS  SOURCE-BTU/HR = 976107.0
* 183 *          SOURCE-SENSIBLE = 0.1  INF-METHOD = AIR-CHANGE
* 184 *          AIR-CHANGES/HR = 0.5  INF-SCHEDULE = FULL_ON  ..
* 185 *
* 186 *      U-W      HEIGHT = 61.0  WIDTH = 80.0  CONS = FLOORCON
* 187 *          AZIMUTH = 240  ..
* 188 *
* 189 *      ROOF     HEIGHT = 61.0  WIDTH = 80.0  CONS = ROOF_CON
* 190 *          AZIMUTH = 240  TILT = 0  ..
* 191 *
* 192 *      E-W      HEIGHT = 10.0  WIDTH = 62.0  CONS = WALL_CON
* 193 *          AZIMUTH = 60  ..
* 194 *
* 195 *      WINDOW   HEIGHT = 6.0  WIDTH = 4.0  G-T = G_TYPE1
* 196 *          MULTIPLIER = 11.0  ..
* 197 *
* 198 *      E-W      HEIGHT = 10.0  WIDTH = 29.0  CONS = WALL_CON
* 199 *          AZIMUTH = 105  ..
* 200 *
* 201 *      DOOR     HEIGHT = 7.5  WIDTH = 3.0  CONS = DOOR_CON ..
* 202 *
* 203 *      E-W      HEIGHT = 10.0  WIDTH = 45.0  CONS = WALL_CON
* 204 *          AZIMUTH = 250  ..
* 205 *
* 206 *      DOOR     HEIGHT = 7.5  WIDTH = 3.0  CONS = DOOR_CON
* 207 *          MULTIPLIER = 2.0  ..
* 208 *
* 209 *
* 210 * MALL      =SPACE  AREA = 7916.0  VOLUME = 79160.0

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LINE	NAME	TYPE	HEIGHT	WIDTH	CONS	AREA	VOLUME	ZONE-TYPE	PEOPLE	HEAT-GAIN	LIGHTING-W/SQFT	INF-METHOD	AIR-CHANGES/HR	INF-SCHEDULE
211								CONDITIONED						
212								PEOPLE-SCHEDULE = PEOPLE_Y	100.0					
213								PEOPLE-HEAT-GAIN = 550.0						
214								LIGHTING-TYPE = REC-FLUOR-RV		1.35				
215								LIGHTING-SCHEDULE = LIGHT_ON_Y						
216								INF-METHOD = AIR-CHANGE			0.75			
217								INF-SCHEDULE = FULL_ON						
218														
219		U-W	50.0	158.0	FLOORCON									
220								AZIMUTH = 240						
221														
222		ROOF	50.0	158.0	ROOF_CON									
223								AZIMUTH = 240		0				
224														
225		E-W	10.0	100.0	WALL_CON									
226								AZIMUTH = 60						
227														
228		E-W	10.0	90.0	WALL_CON									
229								AZIMUTH = 105						
230														
231		DOOR	7.5	3.0	DOOR_CON									
232								MULTIPLIER = 2.0						
233														
234														
235	BEAUTY	=SPACE				1146.0	11460.0							
236								AZIMUTH = 240		CONDITIONED				
237								PEOPLE-SCHEDULE = PEOPLE_Y	20.0					
238								PEOPLE-HEAT-GAIN = 550.0						
239								LIGHTING-TYPE = REC-FLUOR-RV		1.35				
240								LIGHTING-SCHEDULE = LIGHT_ON_Y						
241								INF-METHOD = AIR-CHANGE			0.5			
242								INF-SCHEDULE = FULL_ON						
243														
244		U-W	23.0	50.0	FLOORCON									
245								AZIMUTH = 240						
246														
247		ROOF	23.0	50.0	ROOF_CON									
248								AZIMUTH = 240		0				
249														
250		E-W	10.0	30.0	WALL_CON									
251								AZIMUTH = 60						
252														

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* 319 *           E-W      HEIGHT = 12.0  WIDTH = 125.0  CONS = WALL_CON
* 320 *           AZIMUTH = 285  ..
* 321 *
* 322 *           DOOR     HEIGHT = 7.5   WIDTH = 3.0   CONS = DOOR_CON
* 323 *           MULTIPLIER = 3.0  ..
* 324 *
* 325 *   IMAG_WALL  =I-W    HEIGHT = 12.0  WIDTH = 1000.0  CONS = INWALL
* 326 *           AZIMUTH = 285  NEXT-TO = MCSS_SALES  ..
* 327 *
* 328 *
* 329 *   GARDEN_SLS =SPACE  AREA = 2184.0  VOLUME = 26208.0
* 330 *           AZIMUTH = 240  ZONE-TYPE = CONDITIONED
* 331 *           PEOPLE-SCHEDULE = PEOPLE_Y  NUMBER-OF-PEOPLE = 40.0
* 332 *           PEOPLE-HEAT-GAIN = 550.0
* 333 *           LIGHTING-TYPE = REC-FLUOR-RV  LIGHTING-W/SQFT = 1.35
* 334 *           LIGHTING-SCHEDULE = LIGHT_ON_Y
* 335 *           INF-METHOD = AIR-CHANGE  AIR-CHANGES/HR = 0.5
* 336 *           INF-SCHEDULE = FULL_ON  ..
* 337 *
* 338 *           U-W      HEIGHT = 57.0  WIDTH = 39.0  CONS = FLOORCON
* 339 *           AZIMUTH = 240  ..
* 340 *
* 341 *           ROOF     HEIGHT = 57.0  WIDTH = 39.0  CONS = ROOF_CON
* 342 *           AZIMUTH = 240  TILT = 0  ..
* 343 *
* 344 *           E-W      HEIGHT = 12.0  WIDTH = 39.0  CONS = WALL_CON
* 345 *           AZIMUTH = 60  ..
* 346 *
* 347 *           E-W      HEIGHT = 12.0  WIDTH = 57.0  CONS = WALL_CON
* 348 *           AZIMUTH = 150  ..
* 349 *
* 350 *           E-W      HEIGHT = 12.0  WIDTH = 39.0  CONS = WALL_CON
* 351 *           AZIMUTH = 240  ..
* 352 *
* 353 *           DOOR     HEIGHT = 7.5   WIDTH = 3.0   CONS = DOOR_CON
* 354 *           MULTIPLIER = 2.0  ..
* 355 *
* 356 *           I-W      HEIGHT = 12.0  WIDTH = 1000.0  CONS = INWALL
* 357 *           AZIMUTH = 150  NEXT-TO = MPA  ..
* 358 *
* 359 *
* 360 *   END  ..
* 361 *   COMPUTE LOADS  ..
* 362 *
* 363 *   INPUT SYSTEMS  ..

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SDL PROCESSOR INPUT DATA

3/18/1995 11: 8:39 SDL RUN 1

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* 364 *
* 365 *
* 366 *          $-----$
* 367 *          $EZ - DOE SYSTEMS INPUT $
* 368 *          $-----$
* 369 *
* 370 *          $ GENERAL PROJECT DATA
* 371 *
* 372 * TITLE LINE-1 * EMC ENGINEERS INC. *
* 373 * LINE-2 *EZDOE - ELITE SOFTWARE DEVELOPMENT INC*
* 374 * LINE-3 * DENVER, CO 80227 *
* 375 *
* 376 * LINE-4 *BLDG 10730 EXCHANGE MAIN RETAIL AND *
* 377 * LINE-5 *CLOTHING,MODEL W SET BACK & ECONOMIZER * ..
* 378 * ABORT ERRORS ..
* 379 * DIAGNOSTIC WARNINGS ..
* 380 * SYSTEMS-REPORT SUMMARY=(SS-A,SS-C,SS-K,SS-O) ..
* 381 *
* 382 *          $ SCHEDULES
* 383 *
* 384 * FULL_ON_D =DAY-SCHEDULE (1,24) (1.) ..
* 385 * FULL_OFF_D =DAY-SCHEDULE (1,24) (0.) ..
* 386 * HEAT_68_D =DAY-SCHEDULE (1,24) (68.) ..
* 387 * COOL_75_D =DAY-SCHEDULE (1,5) (85.)
* 388 * (6,21) (75.)
* 389 * (22,24) (85.) ..
* 390 * FAN_ON_D =DAY-SCHEDULE (1,24) (1.) ..
* 391 * FAN_WSBA_D =DAY-SCHEDULE (1,8) (0.)
* 392 * (9,18) (1.)
* 393 * (19,24) (0.) ..
* 394 * FAN_WSB_B_D =DAY-SCHEDULE (1,9) (0.)
* 395 * (10,16) (1.)
* 396 * (17,24) (0.) ..
* 397 * FAN_WSBC_D =DAY-SCHEDULE (1,8) (0.)
* 398 * (9,16) (1.)
* 399 * (17,24) (0.) ..
* 400 * FAN_WSD_D =DAY-SCHEDULE (1,8) (0.)
* 401 * (9,15) (1.)
* 402 * (16,24) (0.) ..
* 403 * FAN_WSBE_D =DAY-SCHEDULE (1,9) (0.)
* 404 * (10,14) (1.)
* 405 * (15,24) (0.) ..
* 406 * FAN_WSBF_D =DAY-SCHEDULE (1,9) (0.)
* 407 * (10,17) (1.)
* 408 * (18,24) (0.) ..
* 409 * FAN_WSBG_D =DAY-SCHEDULE (1,8) (0.)
* 410 * (9,16) (1.)
* 411 * (17,24) (0.) ..
* 412 * HT_WSBA_D =DAY-SCHEDULE (1,8) (50.)
* 413 * (9,18) (73.)
* 414 * (19,24) (50.) ..
* 415 * HT_WSB_B_D =DAY-SCHEDULE (1,9) (50.)
* 416 * (10,16) (73.)
* 417 * (17,24) (50.) ..
* 418 * HT_WSBC_D =DAY-SCHEDULE (1,8) (50.)
* 419 * (9,16) (73.)
* 420 * (17,24) (50.) ..
* 421 * HT_WSD_D =DAY-SCHEDULE (1,8) (50.)
* 422 * (9,15) (73.)
* 423 * (16,24) (50.) ..
* 424 * HT_WSBE_D =DAY-SCHEDULE (1,9) (50.)
* 425 * (10,14) (73.)
* 426 * (15,24) (50.) ..
* 427 * HT_WSBF_D =DAY-SCHEDULE (1,9) (50.)
* 428 * (10,17) (73.)
* 429 * (18,24) (50.) ..
* 430 * HT_WSBG_D =DAY-SCHEDULE (1,8) (50.)
* 431 * (9,16) (73.)
* 432 * (17,24) (50.) ..
* 433 * CL_WSBA_D =DAY-SCHEDULE (1,8) (85.)
* 434 * (9,18) (75.)
* 435 * (19,24) (85.) ..
* 436 * CL_WSB_B_D =DAY-SCHEDULE (1,9) (85.)
* 437 * (10,16) (75.)
* 438 * (17,24) (85.) ..
* 439 * CL_WSBC_D =DAY-SCHEDULE (1,8) (85.)
* 440 * (9,16) (75.)
* 441 * (17,24) (85.) ..
* 442 * CL_WSD_D =DAY-SCHEDULE (1,8) (85.)
* 443 * (9,15) (75.)
* 444 * (16,24) (85.) ..
* 445 * CL_WSBE_D =DAY-SCHEDULE (1,9) (85.)
* 446 * (10,14) (75.)
* 447 * (15,24) (85.) ..
* 448 * CL_WSBF_D =DAY-SCHEDULE (1,9) (85.)
* 449 * (10,17) (75.)
* 450 * (18,24) (85.) ..
* 451 * CL_WSBG_D =DAY-SCHEDULE (1,8) (85.)
* 452 * (9,16) (75.)
* 453 * (17,24) (85.) ..
* 454 *
* 455 * FULL_ON_W =WEEK-SCHEDULE (ALL) FULL_ON_D ..
* 456 *
* 457 * FULL_OFF_W =WEEK-SCHEDULE (ALL) FULL_OFF_D ..
* 458 *
* 459 * HEAT_70_W =WEEK-SCHEDULE (ALL) HEAT_68_D ..
* 460 *
* 461 * COOL_75_W =WEEK-SCHEDULE (ALL) COOL_75_D ..
* 462 *
* 463 * FAN_ON_W =WEEK-SCHEDULE (ALL) FAN_ON_D ..

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* 464 *
* 465 * FAN_WSB1_W =WEEK-SCHEDULE (WD) FAN_WSBA_D
* 466 * (SAT) FAN_WSBA_D
* 467 * (SUN) FAN_WSB_B_D
* 468 * (HOL) FAN_WSBA_D ..
* 469 *
* 470 * FAN_WSB2_W =WEEK-SCHEDULE (WD) FAN_WSB_C_D
* 471 * (SAT) FAN_WSB_D_D
* 472 * (SUN) FAN_WSB_E_D
* 473 * (HOL) FAN_WSB_C_D ..
* 474 *
* 475 * FAN_WSB3_W =WEEK-SCHEDULE (WD) FAN_WSBF_D
* 476 * (SAT) FAN_WSBG_D
* 477 * (SUN) FAN_WSBG_D
* 478 * (HOL) FAN_WSBF_D ..
* 479 *
* 480 * HT_WSB1_W =WEEK-SCHEDULE (WD) HT_WSBA_D
* 481 * (SAT) HT_WSBA_D
* 482 * (SUN) HT_WSB_B_D
* 483 * (HOL) HT_WSBA_D ..
* 484 *
* 485 * HT_WSB2_W =WEEK-SCHEDULE (WD) HT_WSB_C_D
* 486 * (SAT) HT_WSB_D_D
* 487 * (SUN) HT_WSB_E_D
* 488 * (HOL) HT_WSB_C_D ..
* 489 *
* 490 * HT_WSB3_W =WEEK-SCHEDULE (WD) HT_WSBF_D
* 491 * (SAT) HT_WSBG_D
* 492 * (SUN) HT_WSBG_D
* 493 * (HOL) HT_WSBF_D ..
* 494 *
* 495 * CL_WSB1_W =WEEK-SCHEDULE (WD) CL_WSBA_D
* 496 * (SAT) CL_WSBA_D
* 497 * (SUN) CL_WSB_B_D
* 498 * (HOL) CL_WSBA_D ..
* 499 *
* 500 * CL_WSB2_W =WEEK-SCHEDULE (WD) CL_WSB_C_D
* 501 * (SAT) CL_WSB_D_D
* 502 * (SUN) CL_WSB_E_D
* 503 * (HOL) CL_WSB_C_D ..
* 504 *
* 505 * CL_WSB3_W =WEEK-SCHEDULE (WD) CL_WSB_E_D
* 506 * (SAT) CL_WSBF_D
* 507 * (SUN) CL_WSBF_D
* 508 * (HOL) CL_WSB_E_D ..
* 509 *
* 510 *
* 511 * FULL_ON =SCHEDULE THRU DEC 31 FULL_ON_W ..
* 512 *
* 513 * FULL_OFF =SCHEDULE THRU DEC 31 FULL_OFF_W ..
* 514 *
* 515 * $ HEATING SCHEDULE
* 516 * HEAT_68_SC =SCHEDULE THRU DEC 31 HEAT_70_W ..
* 517 *
* 518 * $ COOLING SCHEDULE
* 519 * COOL_75_SC =SCHEDULE THRU DEC 31 COOL_75_W ..
* 520 *
* 521 * $ FAN SCHEDULE
* 522 * FAN_ON_SCD =SCHEDULE THRU DEC 31 FAN_ON_W ..
* 523 *
* 524 * $ SCHD FOR MAIN STORE
* 525 * FAN_WSB1 =SCHEDULE THRU DEC 31 FAN_WSB1_W ..
* 526 *
* 527 * $ SCHD FOR CLOTHING SALES
* 528 * FAN_WSB2 =SCHEDULE THRU DEC 31 FAN_WSB2_W ..
* 529 *
* 530 * $ SCHD FOR FOOD COURT
* 531 * FAN_WSB3 =SCHEDULE THRU DEC 31 FAN_WSB3_W ..
* 532 *
* 533 * $ SCHD FOR MAIN STORE
* 534 * HT68_WSB_1 =SCHEDULE THRU DEC 31 HT_WSB1_W ..
* 535 *
* 536 * $ SCHD FOR CLOTHING SALES
* 537 * HT68_WSB_2 =SCHEDULE THRU DEC 31 HT_WSB2_W ..
* 538 *
* 539 * $ SCHD FOR FOOD COURT
* 540 * HT68_WSB_3 =SCHEDULE THRU DEC 31 HT_WSB3_W ..
* 541 *
* 542 * $ SCHD FOR MAIN STORE
* 543 * CL75_WSB_1 =SCHEDULE THRU DEC 31 CL_WSB1_W ..
* 544 *
* 545 * $ SCHD FOR CLOTHING SALES
* 546 * CL75_WSB_2 =SCHEDULE THRU DEC 31 CL_WSB2_W ..
* 547 *
* 548 * $ SCHD FOR FOOD COURT
* 549 * CL75_WSB_3 =SCHEDULE THRU DEC 31 CL_WSB3_W ..
* 550 *
* 551 *
* 552 *
* 553 * $ ZONE DESCRIPTION
* 554 *
* 555 * RETAIL_SLS =ZONE DESIGN-HEAT-T = 70.0 DESIGN-COOL-T = 75.0
* 556 * HEAT-TEMP-SCH = HT68_WSB_1 COOL-TEMP-SCH = CL75_WSB_1
* 557 * ZONE-TYPE = CONDITIONED
* 558 * THERMOSTAT-TYPE = PROPORTIONAL THROTTLING-RANGE = 1.0
* 559 * BASEBOARD-CTRL = THERMOSTATIC ASSIGNED-CFM = 26700.
* 560 * OUTSIDE-AIR-CFM = 3290. SIZING-OPTION = FROM-LOADS
* 561 * RATED-CFM = 26700.0 MIN-CFM-RATIO = 1.0 ..
* 562 *
* 563 * MPA =ZONE DESIGN-HEAT-T = 70.0 DESIGN-COOL-T = 75.0
* 564 * HEAT-TEMP-SCH = HT68_WSB_1 COOL-TEMP-SCH = CL75_WSB_1
* 565 * ZONE-TYPE = CONDITIONED
* 566 * THERMOSTAT-TYPE = PROPORTIONAL THROTTLING-RANGE = 1.0
* 567 * BASEBOARD-CTRL = THERMOSTATIC
* 568 * BASEBOARD-RATING = -500000. ASSIGNED-CFM = 7800.
* 569 * OUTSIDE-AIR-CFM = 1388. SIZING-OPTION = FROM-LOADS
* 570 * RATED-CFM = 7800.0 MIN-CFM-RATIO = 1.0 ..
* 571 *

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* 572 * ADMIN      =ZONE  DESIGN-HEAT-T = 70.0  DESIGN-COOL-T = 75.0
* 573 *             HEAT-TEMP-SCH = HT68_WSB_1  COOL-TEMP-SCH = CL75_WSB_1
* 574 *             ZONE-TYPE = CONDITIONED
* 575 *             THERMOSTAT-TYPE = PROPORTIONAL  THROTTLING-RANGE = 1.0
* 576 *             BASEBOARD-CTRL = THERMOSTATIC  ASSIGNED-CFM = 4000.
* 577 *             OUTSIDE-AIR-CFM = 475.  SIZING-OPTION = FROM-LOADS
* 578 *             RATED-CFM = 4000.0  MIN-CFM-RATIO = 1.0  ..
* 579 *
* 580 * FAST_FOOD  =ZONE  DESIGN-HEAT-T = 70.0  DESIGN-COOL-T = 75.0
* 581 *             HEAT-TEMP-SCH = HT68_WSB_3  COOL-TEMP-SCH = CL75_WSB_3
* 582 *             ZONE-TYPE = CONDITIONED
* 583 *             THERMOSTAT-TYPE = PROPORTIONAL  THROTTLING-RANGE = 1.0
* 584 *             BASEBOARD-CTRL = THERMOSTATIC
* 585 *             BASEBOARD-RATING = -1150000.  ASSIGNED-CFM = 8470.
* 586 *             OUTSIDE-AIR-CFM = 4250.  SIZING-OPTION = FROM-LOADS
* 587 *             RATED-CFM = 8470.0  MIN-CFM-RATIO = 1.0  ..
* 588 *
* 589 * MALL       =ZONE  DESIGN-HEAT-T = 70.0  DESIGN-COOL-T = 75.0
* 590 *             HEAT-TEMP-SCH = HT68_WSB_1  COOL-TEMP-SCH = CL75_WSB_1
* 591 *             ZONE-TYPE = CONDITIONED
* 592 *             THERMOSTAT-TYPE = PROPORTIONAL  THROTTLING-RANGE = 1.0
* 593 *             BASEBOARD-CTRL = THERMOSTATIC
* 594 *             BASEBOARD-RATING = -1811500.  ASSIGNED-CFM = 9650.
* 595 *             OUTSIDE-AIR-CFM = 850.  SIZING-OPTION = FROM-LOADS
* 596 *             RATED-CFM = 9650.0  MIN-CFM-RATIO = 1.0  ..
* 597 *
* 598 * BEAUTY     =ZONE  DESIGN-HEAT-T = 70.0  DESIGN-COOL-T = 75.0
* 599 *             HEAT-TEMP-SCH = HT68_WSB_1  COOL-TEMP-SCH = CL75_WSB_1
* 600 *             ZONE-TYPE = CONDITIONED
* 601 *             THERMOSTAT-TYPE = PROPORTIONAL  THROTTLING-RANGE = 1.0
* 602 *             BASEBOARD-CTRL = THERMOSTATIC
* 603 *             BASEBOARD-RATING = -5500000.  ASSIGNED-CFM = 1837.
* 604 *             OUTSIDE-AIR-CFM = 200.  SIZING-OPTION = FROM-LOADS
* 605 *             RATED-CFM = 1837.0  MIN-CFM-RATIO = 1.0  ..
* 606 *
* 607 * BARBER     =ZONE  DESIGN-HEAT-T = 70.0  DESIGN-COOL-T = 75.0
* 608 *             HEAT-TEMP-SCH = HT68_WSB_1  COOL-TEMP-SCH = CL75_WSB_1
* 609 *             ZONE-TYPE = CONDITIONED
* 610 *             THERMOSTAT-TYPE = PROPORTIONAL  THROTTLING-RANGE = 1.0
* 611 *             BASEBOARD-CTRL = THERMOSTATIC  ASSIGNED-CFM = 1000.
* 612 *             OUTSIDE-AIR-CFM = 100.  SIZING-OPTION = FROM-LOADS
* 613 *             RATED-CFM = 1000.0  MIN-CFM-RATIO = 1.0  ..
* 614 *
* 615 * MCSS_SALES =ZONE  DESIGN-HEAT-T = 70.0  DESIGN-COOL-T = 75.0
* 616 *             HEAT-TEMP-SCH = HT68_WSB_2  COOL-TEMP-SCH = CL75_WSB_2
* 617 *             ZONE-TYPE = CONDITIONED
* 618 *             THERMOSTAT-TYPE = PROPORTIONAL  THROTTLING-RANGE = 1.0
* 619 *             BASEBOARD-CTRL = THERMOSTATIC
* 620 *             BASEBOARD-RATING = -1000000.  ASSIGNED-CFM = 6576.
* 621 *             OUTSIDE-AIR-CFM = 776.  SIZING-OPTION = FROM-LOADS
* 622 *             RATED-CFM = 6576.0  MIN-CFM-RATIO = 1.0  ..
* 623 *
* 624 * MCSS_MPAQ  =ZONE  DESIGN-HEAT-T = 70.0  DESIGN-COOL-T = 75.0
* 625 *             HEAT-TEMP-SCH = HT68_WSB_2  COOL-TEMP-SCH = CL75_WSB_2
* 626 *             ZONE-TYPE = CONDITIONED
* 627 *             THERMOSTAT-TYPE = PROPORTIONAL  THROTTLING-RANGE = 1.0
* 628 *             BASEBOARD-CTRL = THERMOSTATIC
* 629 *             BASEBOARD-RATING = -56000.  ASSIGNED-CFM = 3850.
* 630 *             OUTSIDE-AIR-CFM = 533.  SIZING-OPTION = FROM-LOADS
* 631 *             RATED-CFM = 3850.0  MIN-CFM-RATIO = 1.0  ..
* 632 *
* 633 * GARDEN_SLS =ZONE  DESIGN-HEAT-T = 70.0  DESIGN-COOL-T = 75.0
* 634 *             HEAT-TEMP-SCH = HT68_WSB_1  COOL-TEMP-SCH = CL75_WSB_1
* 635 *             ZONE-TYPE = CONDITIONED
* 636 *             THERMOSTAT-TYPE = PROPORTIONAL  THROTTLING-RANGE = 1.0
* 637 *             BASEBOARD-CTRL = THERMOSTATIC  ASSIGNED-CFM = 1800.
* 638 *             OUTSIDE-AIR-CFM = 180.  SIZING-OPTION = FROM-LOADS
* 639 *             RATED-CFM = 1800.0  MIN-CFM-RATIO = 1.0  ..
* 640 *
* 641 *
* 642 *
* 643 * $ SYSTEM DESCRIPTION
* 644 * AHU_1      =SYSTEM  SYSTEM-TYPE = SZRH
* 645 *             MAX-SUPPLY-T = 135.0  MIN-SUPPLY-T = 55.0
* 646 *             HEAT-SET-T = 135.0  MIN-HUMIDITY = 30.0
* 647 *             ECONO-LIMIT-T = 65.0  ECONO-LOW-LIMIT = 55.0
* 648 *             SUPPLY-CFM = 26700.  RETURN-CFM = 23410.
* 649 *             RATED-CFM = 26700.  MIN-OUTSIDE-AIR = 0.12
* 650 *             MAX-OA-FRACTION = 0.88  FAN-SCHEDULE = FAN_WSB1
* 651 *             SUPPLY-STATIC = 4.0  SUPPLY-EFF = 0.6
* 652 *             MOTOR-PLACEMENT = OUTSIDE-AIRFLOW
* 653 *             NIGHT-CYCLE-CTRL = CYCLE-ON-ANY  NIGHT-VENT-DT = 0.0
* 654 *             MIN-CFM-RATIO = 1.0  COOLING-CAPACITY = 870000.
* 655 *             HEATING-CAPACITY = -595000.  FURNACE-AUX = 0.
* 656 *             PREHEAT-SOURCE = HOT-WATER
* 657 *             ZONE-NAMES = (RETAIL_SLS)  ..
* 658 *
* 659 * AHU_2      =SYSTEM  SYSTEM-TYPE = SZRH
* 660 *             MAX-SUPPLY-T = 135.0  MIN-SUPPLY-T = 55.0
* 661 *             HEAT-SET-T = 135.0  MIN-HUMIDITY = 30.0
* 662 *             ECONO-LIMIT-T = 65.0  ECONO-LOW-LIMIT = 55.0
* 663 *             SUPPLY-CFM = 7800.  RETURN-CFM = 6412.
* 664 *             RATED-CFM = 7800.  MIN-OUTSIDE-AIR = 0.18
* 665 *             MAX-OA-FRACTION = 0.82  FAN-SCHEDULE = FAN_WSB1
* 666 *             SUPPLY-STATIC = 3.5  SUPPLY-EFF = 0.6
* 667 *             MOTOR-PLACEMENT = OUTSIDE-AIRFLOW
* 668 *             NIGHT-CYCLE-CTRL = CYCLE-ON-ANY  NIGHT-VENT-DT = 0.0
* 669 *             MIN-CFM-RATIO = 1.0  COOLING-CAPACITY = 199600.
* 670 *             HEATING-CAPACITY = -323500.  FURNACE-AUX = 0.
* 671 *             PREHEAT-SOURCE = HOT-WATER
* 672 *             ZONE-NAMES = (MPA)  ..
* 673 *
* 674 * AHU_3      =SYSTEM  SYSTEM-TYPE = SZRH
* 675 *             MAX-SUPPLY-T = 135.0  MIN-SUPPLY-T = 55.0
* 676 *             HEAT-SET-T = 55.0  PREHEAT-T = 20.0
* 677 *             MIN-HUMIDITY = 30.0  ECONO-LIMIT-T = 65.0
* 678 *             ECONO-LOW-LIMIT = 55.0  SUPPLY-CFM = 4000.
* 679 *             RETURN-CFM = 3525.  RATED-CFM = 4000.

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* 680 *      MIN-OUTSIDE-AIR = 0.12 MAX-OA-FRACTION = 0.88
* 681 *      FAN-SCHEDULE = FAN_WSB1 SUPPLY-STATIC = 3.75
* 682 *      SUPPLY-EFF = 0.6 MOTOR-PLACEMENT = OUTSIDE-AIRFLOW
* 683 *      NIGHT-CYCLE-CTRL = CYCLE-ON-ANY NIGHT-VENT-DT = 0.0
* 684 *      MIN-CFM-RATIO = 1.0 REHEAT-DELTA-T = 30.
* 685 *      COOLING-CAPACITY = 120500.
* 686 *      HEATING-CAPACITY = -105000. FURNACE-AUX = 0.
* 687 *      ZONE-NAMES = (ADMIN) ..
* 688 *
* 689 * AHU_5      =SYSTEM  SYSTEM-TYPE = SZRH
* 690 *      MAX-SUPPLY-T = 135.0 MIN-SUPPLY-T = 55.0
* 691 *      HEAT-SET-T = 55.0 PREHEAT-T = 55.0
* 692 *      MIN-HUMIDITY = 30.0 ECONO-LIMIT-T = 65.0
* 693 *      ECONO-LOW-LIMIT = 55.0 SUPPLY-CFM = 9650.
* 694 *      RETURN-CFM = 8800. RATED-CFM = 9650.
* 695 *      MIN-OUTSIDE-AIR = 0.1 MAX-OA-FRACTION = 0.9
* 696 *      FAN-SCHEDULE = FAN_WSB1 SUPPLY-STATIC = 3.75
* 697 *      SUPPLY-EFF = 0.6 MOTOR-PLACEMENT = OUTSIDE-AIRFLOW
* 698 *      NIGHT-CYCLE-CTRL = CYCLE-ON-ANY NIGHT-VENT-DT = 0.0
* 699 *      MIN-CFM-RATIO = 1.0 REHEAT-DELTA-T = 30.
* 700 *      COOLING-CAPACITY = 197580.
* 701 *      HEATING-CAPACITY = -207300. FURNACE-AUX = 0.
* 702 *      ZONE-NAMES = (MALL) ..
* 703 *
* 704 * AHU_4      =SYSTEM  SYSTEM-TYPE = SZRH
* 705 *      MAX-SUPPLY-T = 135.0 MIN-SUPPLY-T = 55.0
* 706 *      HEAT-SET-T = 135.0 MIN-HUMIDITY = 30.0
* 707 *      ECONO-LIMIT-T = 65.0 ECONO-LOW-LIMIT = 55.0
* 708 *      SUPPLY-CFM = 8470. RETURN-CFM = 4220.
* 709 *      RATED-CFM = 8470. MIN-OUTSIDE-AIR = 0.5
* 710 *      MAX-OA-FRACTION = 0.91 FAN-SCHEDULE = FAN_WSB3
* 711 *      SUPPLY-STATIC = 3.5 SUPPLY-EFF = 0.6
* 712 *      MOTOR-PLACEMENT = OUTSIDE-AIRFLOW
* 713 *      NIGHT-CYCLE-CTRL = CYCLE-ON-ANY NIGHT-VENT-DT = 0.0
* 714 *      MIN-CFM-RATIO = 1.0 COOLING-CAPACITY = 283500.
* 715 *      HEATING-CAPACITY = -189400. FURNACE-AUX = 0.
* 716 *      PREHEAT-SOURCE = HOT-WATER
* 717 *      ZONE-NAMES = (FAST_FOOD) ..
* 718 *
* 719 * AHU_6      =SYSTEM  SYSTEM-TYPE = SZRH
* 720 *      MAX-SUPPLY-T = 135.0 MIN-SUPPLY-T = 55.0
* 721 *      HEAT-SET-T = 135.0 MIN-HUMIDITY = 30.0
* 722 *      ECONO-LIMIT-T = 65.0 ECONO-LOW-LIMIT = 55.0
* 723 *      SUPPLY-CFM = 1837. RETURN-CFM = 1637.
* 724 *      RATED-CFM = 1837. MIN-OUTSIDE-AIR = 0.12
* 725 *      MAX-OA-FRACTION = 0.88 FAN-SCHEDULE = FAN_WSB1
* 726 *      SUPPLY-STATIC = 2.75 SUPPLY-EFF = 0.6
* 727 *      MOTOR-PLACEMENT = OUTSIDE-AIRFLOW
* 728 *      NIGHT-CYCLE-CTRL = CYCLE-ON-ANY NIGHT-VENT-DT = 0.0
* 729 *      MIN-CFM-RATIO = 1.0 COOLING-CAPACITY = 71000.
* 730 *      HEATING-CAPACITY = -30700. FURNACE-AUX = 0.
* 731 *      PREHEAT-SOURCE = HOT-WATER
* 732 *      ZONE-NAMES = (BEAUTY) ..
* 733 *
* 734 * AHU_7      =SYSTEM  SYSTEM-TYPE = SZRH
* 735 *      MAX-SUPPLY-T = 135.0 MIN-SUPPLY-T = 55.0
* 736 *      HEAT-SET-T = 135.0 MIN-HUMIDITY = 30.0
* 737 *      ECONO-LIMIT-T = 65.0 ECONO-LOW-LIMIT = 55.0
* 738 *      SUPPLY-CFM = 1000. RETURN-CFM = 900.
* 739 *      RATED-CFM = 1000. MIN-OUTSIDE-AIR = 0.12
* 740 *      MAX-OA-FRACTION = 0.89 FAN-SCHEDULE = FAN_WSB1
* 741 *      SUPPLY-STATIC = 2.75 SUPPLY-EFF = 0.6
* 742 *      MOTOR-PLACEMENT = OUTSIDE-AIRFLOW
* 743 *      NIGHT-CYCLE-CTRL = CYCLE-ON-ANY NIGHT-VENT-DT = 0.0
* 744 *      MIN-CFM-RATIO = 1.0 COOLING-CAPACITY = 20900.
* 745 *      HEATING-CAPACITY = -22450. FURNACE-AUX = 0.
* 746 *      PREHEAT-SOURCE = HOT-WATER
* 747 *      ZONE-NAMES = (BARBER) ..
* 748 *
* 749 * AHU_8      =SYSTEM  SYSTEM-TYPE = SZRH
* 750 *      MAX-SUPPLY-T = 135.0 MIN-SUPPLY-T = 55.0
* 751 *      HEAT-SET-T = 135.0 MIN-HUMIDITY = 30.0
* 752 *      ECONO-LIMIT-T = 65.0 ECONO-LOW-LIMIT = 55.0
* 753 *      SUPPLY-CFM = 6576. RETURN-CFM = 5800.
* 754 *      RATED-CFM = 6576. MIN-OUTSIDE-AIR = 0.12
* 755 *      MAX-OA-FRACTION = 0.88 FAN-SCHEDULE = FAN_WSB2
* 756 *      SUPPLY-STATIC = 3.5 SUPPLY-EFF = 0.6
* 757 *      MOTOR-PLACEMENT = OUTSIDE-AIRFLOW
* 758 *      NIGHT-CYCLE-CTRL = CYCLE-ON-ANY NIGHT-VENT-DT = 0.0
* 759 *      MIN-CFM-RATIO = 1.0 COOLING-CAPACITY = 214000.
* 760 *      HEATING-CAPACITY = -111100. FURNACE-AUX = 0.
* 761 *      PREHEAT-SOURCE = HOT-WATER
* 762 *      ZONE-NAMES = (MCSS_SALES) ..
* 763 *
* 764 * AHU_9      =SYSTEM  SYSTEM-TYPE = SZRH
* 765 *      MAX-SUPPLY-T = 135.0 MIN-SUPPLY-T = 55.0
* 766 *      HEAT-SET-T = 135.0 MIN-HUMIDITY = 30.0
* 767 *      ECONO-LIMIT-T = 65.0 ECONO-LOW-LIMIT = 55.0
* 768 *      SUPPLY-CFM = 3850. RETURN-CFM = 3317.
* 769 *      RATED-CFM = 3850. MIN-OUTSIDE-AIR = 0.14
* 770 *      MAX-OA-FRACTION = 0.86 FAN-SCHEDULE = FAN_WSB2
* 771 *      SUPPLY-STATIC = 2.5 SUPPLY-EFF = 0.6
* 772 *      MOTOR-PLACEMENT = OUTSIDE-AIRFLOW
* 773 *      NIGHT-CYCLE-CTRL = CYCLE-ON-ANY NIGHT-VENT-DT = 0.0
* 774 *      MIN-CFM-RATIO = 1.0 COOLING-CAPACITY = 96900.
* 775 *      HEATING-CAPACITY = -163100. FURNACE-AUX = 0.
* 776 *      PREHEAT-SOURCE = HOT-WATER
* 777 *      ZONE-NAMES = (MCSS_MPAQ) ..
* 778 *
* 779 * AHU_10     =SYSTEM  SYSTEM-TYPE = SZRH
* 780 *      MAX-SUPPLY-T = 135.0 MIN-SUPPLY-T = 55.0
* 781 *      HEAT-SET-T = 135.0 MIN-HUMIDITY = 30.0
* 782 *      ECONO-LIMIT-T = 65.0 ECONO-LOW-LIMIT = 55.0
* 783 *      SUPPLY-CFM = 1800. RETURN-CFM = 1620.
* 784 *      RATED-CFM = 1800. MIN-OUTSIDE-AIR = 0.1
* 785 *      FAN-SCHEDULE = FAN_WSB1 SUPPLY-STATIC = 2.5
* 786 *      SUPPLY-EFF = 0.6 MOTOR-PLACEMENT = OUTSIDE-AIRFLOW
* 787 *      NIGHT-CYCLE-CTRL = CYCLE-ON-ANY NIGHT-VENT-DT = 0.0

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* 788 *           MIN-CFM-RATIO = 1.0  COOLING-CAPACITY = 62700.
* 789 *           HEATING-CAPACITY = -65500.  FURNACE-AUX = 0.
* 790 *           PREHEAT-SOURCE = HOT-WATER
* 791 *           ZONE-NAMES = (GARDEN_SLS)  ..
* 792 *
* 793 * END  ..
* 794 * COMPUTE SYSTEMS  ..
* 795 *
* 796 * INPUT PLANT  ..
```

PDL PROCESSOR INPUT DATA

3/18/1995 11: 8:39 PDL RUN 1

```

* 797 *
* 798 *
* 799 *
* 800 *          $-----$
* 801 *          $EZ - DOE PLANTS INPUT$
* 802 *          $-----$
* 803 *
* 804 *          $ GENERAL PROJECT DATA
* 805 *
* 806 * TITLE LINE-1 * EMC ENGINEERS INC. *
* 807 * LINE-2 *EZDOE - ELITE SOFTWARE DEVELOPMENT INC*
* 808 * LINE-3 * DENVER, CO 80227 *
* 809 * LINE-4 *BLDG 10730 EXCHANGE MAIN RETAIL AND *
* 810 * LINE-5 *CLOTHING,MODEL W SET BACK & ECONOMIZER * ..
* 811 *
* 812 * ABORT ERRORS ..
* 813 * DIAGNOSTIC WARNINGS ..
* 814 * PLANT-REPORT SUMMARY=(PS-A,PS-B,BEPS)
* 815 * ..
* 816 *
* 817 *          $ SCHEDULES
* 818 *
* 819 * FULL_ON_D =DAY-SCHEDULE (1,24) (1.) ..
* 820 *
* 821 *
* 822 * FULL_ON_W =WEEK-SCHEDULE (ALL) FULL_ON_D ..
* 823 *
* 824 *
* 825 * FULL_ON =SCHEDULE THRU DEC 31 FULL_ON_W ..
* 826 *
* 827 *
* 828 *
* 829 *          $ EQUIPMENT DESCRIPTION
* 830 *
* 831 * HTHW_HX =PLANT-EQUIPMENT TYPE = HTANK-STORAGE
* 832 * SIZE = 2.1 ..
* 833 *
* 834 * ACC1&2 =PLANT-EQUIPMENT TYPE = OPEN-REC-CHLR
* 835 * SIZE = 1.1 INSTALLED-NUMBER = 2
* 836 * MAX-NUMBER-AVAIL = 2 ..
* 837 *
* 838 * PLANT-PARAMETERS OPEN-REC-COND-TYPE = AIR CHILL-WTR-T = 43.
* 839 * CCIRC-IMPELLER-EFF = 0.67 CCIRC-HEAD = 100.0
* 840 * HCIRC-IMPELLER-EFF = 0.73 HCIRC-HEAD = 95.0 ..
* 841 *
* 842 *
* 843 * ENERGY-RESOURCE RESOURCE = ELECTRICITY ..
* 844 * ENERGY-RESOURCE RESOURCE = STEAM ..
* 845 * ENERGY-RESOURCE RESOURCE = NATURAL-GAS ..
* 846 *
* 847 * ENERGY-STORAGE HEAT-STORE-RATE = 2.11 HEAT-SUPPLY-RATE = 2.11
* 848 * HTANK-BASE-T = 195.0 HTANK-T-RANGE = 5.0
* 849 * HEAT-STORE-SCH = FULL_ON ..
* 850 *
* 851 * HEAT-RECOVERY
* 852 * SUPPLY-1 = (HTANK-STORAGE)
* 853 * DEMAND-1 = (SPACE-HEAT,PROCESS-HEAT) ..
* 854 *
* 855 *
* 856 *
* 857 * END ..
* 858 * COMPUTE PLANT ..
* 859 * STOP ..

```



ENERGY TYPE IN SITE MBTU-	STEAM	ELECTRICITY	NATURAL-GAS
CATEGORY OF USE			
SPACE HEAT	3,836.48	0.00	0.00
SPACE COOL	0.00	212.79	0.00
HVAC AUX	0.00	806.86	0.00
DOM HOT WTR	0.00	0.00	0.00
AUX SOLAR	0.00	0.00	0.00
LIGHTS	0.00	1,539.30	0.00
VERT TRANS	0.00	0.00	0.00
MISC EQUIP	0.00	464.57	8,549.75
	-----	-----	-----
TOTAL	3,836.48	3,023.51	8,549.75

TOTAL SITE ENERGY 15410.80 MBTU 198.7 KBTU/SQFT-YR GROSS-AREA 198.7 KBTU/SQFT-YR NET-AREA  
 TOTAL SOURCE ENERGY 24024.74 MBTU 309.7 KBTU/SQFT-YR GROSS-AREA 309.7 KBTU/SQFT-YR NET-AREA

PERCENT OF HOURS ANY SYSTEM ZONE OUTSIDE OF THROTTLING RANGE = 22.6  
 PERCENT OF HOURS ANY PLANT LOAD NOT SATISFIED = 0.0

NOTE ELECTRICITY AND/OR FUEL USED TO GENERATE ELECTRICITY IS APPORTIONED BASED  
 ON THE YEARLY DEMAND. ALL OTHER ENERGY TYPES ARE APPORTIONED HOURLY.

EMC ENGINEERS INC. EZDOE - ELITE SOFTWARE DEVELOPMENT INC DOE-2.1D 3/18/1995 11: 8:39 PDL RUN 1  
DENVER, CO 80227 BLDG 10730 EXCHANGE MAIN RETAIL AND CLOTHING,MODEL W SET BACK & ECONOMIZER  
REPORT- PS-B MONTHLY PEAK AND TOTAL ENERGY USE WEATHER FILE- MASSENA, NY

MO	UTILITY-	STEAM	ELECTRICITY	NATURAL-GAS
	TOTAL (MBTU)	865.115	230.728	726.225
JAN	PEAK (KBTU)	5816.151	584.145	976.107
	DY/HR	6/11	31/16	31/24
	TOTAL (MBTU)	606.526	208.566	655.944
FEB	PEAK (KBTU)	5643.485	584.145	976.107
	DY/HR	5/ 9	28/16	28/24
	TOTAL (MBTU)	620.603	231.738	726.225
MAR	PEAK (KBTU)	5490.422	650.024	976.107
	DY/HR	27/10	18/13	31/24
	TOTAL (MBTU)	346.156	233.884	702.798
APR	PEAK (KBTU)	4715.624	707.673	976.107
	DY/HR	1/ 9	15/14	30/ 1
	TOTAL (MBTU)	194.901	257.640	726.225
MAY	PEAK (KBTU)	4341.409	785.073	976.107
	DY/HR	3/ 9	31/16	31/ 1
	TOTAL (MBTU)	31.862	271.639	702.798
JUN	PEAK (KBTU)	1581.529	853.842	976.107
	DY/HR	7/ 9	28/16	30/ 1
	TOTAL (MBTU)	8.473	310.493	726.225
JUL	PEAK (KBTU)	898.506	1126.590	976.107
	DY/HR	10/10	18/15	31/ 1
	TOTAL (MBTU)	13.912	294.643	726.225
AUG	PEAK (KBTU)	793.011	1023.691	976.107
	DY/HR	25/ 9	9/16	31/ 1
	TOTAL (MBTU)	57.357	270.583	702.798
SEP	PEAK (KBTU)	2474.356	1109.843	976.107
	DY/HR	14/ 9	4/14	30/ 1
	TOTAL (MBTU)	174.340	249.918	726.225
OCT	PEAK (KBTU)	3585.933	719.414	976.107
	DY/HR	25/ 9	8/15	31/24
	TOTAL (MBTU)	338.510	231.126	702.798
NOV	PEAK (KBTU)	4913.322	687.443	976.107
	DY/HR	27/10	1/10	30/24
	TOTAL (MBTU)	578.730	232.646	726.225
DEC	PEAK (KBTU)	5460.505	665.195	976.107
	DY/HR	25/10	9/13	31/24
	ONE YEAR	3836.486	3023.604	8550.711
	USE/PEAK	5816.151	1126.590	976.107

**COMPUTER SIMULATIONS**  
**BUILDING 10730**

RUN 3 - DDC

# LDL PROCESSOR INPUT DATA

3/18/1995 11:50: 7 LDL RUN 1

```

* 3 *
* 4 *
* 5 *
* 6 *          $-----$
* 7 *          $EZ - DOE LOADS INPUT$
* 8 *          $-----$
* 9 *
*10 *          $ GENERAL PROJECT DATA
*11 *
*12 * TITLE  LINE-1 * EMC ENGINEERS INC. *
*13 *        LINE-2 *EZDOE - ELITE SOFTWARE DEVELOPMENT INC*
*14 *        LINE-3 * DENVER, CO 80227 *
*15 *
*16 *        LINE-4 *BLDG 10730 EXCHANGE MAIN RETAIL AND *
*17 *        LINE-5 *CLOTHING,MODEL W SB, ECON., & DDC * ..
*18 *
*19 * ABORT      ERRORS ..
*20 * DIAGNOSTIC WARNINGS ..
*21 * BUILDING-LOCATION X-REF = 0.0
*22 *                Y-REF = 0.0 ..
*23 * RUN-PERIOD   JAN 1 1994 THRU DEC 31 1994 ..
*24 *
*25 *          $ SCHEDULES
*26 *
*27 * FULL_OFF_D =DAY-SCHEDULE (1,24) (0.) ..
*28 *
*29 * PEOPLE_D   =DAY-SCHEDULE (1,6) (0.)
*30 *                (7,9) (0.1,0.2,0.4)
*31 *                (10,14) (0.7)
*32 *                (15,18) (0.9)
*33 *                (19,20) (1.)
*34 *                (21,22) (0.2)
*35 *                (23,24) (0.1) ..
*36 *
*37 * LIGHT_ON_D =DAY-SCHEDULE (1,2) (0.2)
*38 *                (3,6) (0.1)
*39 *                (7) (0.2)
*40 *                (8,9) (0.3)
*41 *                (10,17) (0.9)
*42 *                (18,19) (0.6)
*43 *                (20) (0.5)
*44 *                (21,22) (0.4)
*45 *                (23,24) (0.3,0.2) ..
*46 *
*47 * FULL_ON_D  =DAY-SCHEDULE (1,24) (1.) ..
*48 *
*49 *
*50 * FULL_OFF_W =WEEK-SCHEDULE (ALL) FULL_OFF_D ..
*51 *
*52 * PEOPLE_W   =WEEK-SCHEDULE (ALL) PEOPLE_D ..
*53 *
*54 * LIGHT_ON_W =WEEK-SCHEDULE (ALL) LIGHT_ON_D ..
*55 *
*56 * FULL_ON_W  =WEEK-SCHEDULE (ALL) FULL_ON_D ..
*57 *
*58 *
*59 * FULL_ON    =SCHEDULE THRU DEC 31 FULL_ON_W ..
*60 *
*61 * FULL_OFF   =SCHEDULE THRU DEC 31 FULL_OFF_W ..
*62 *
*63 * $ OCCUPANCY SCHEDULE
*64 * PEOPLE_Y   =SCHEDULE THRU DEC 31 PEOPLE_W ..
*65 *
*66 * $ LIGHTING SCHEDULE
*67 * LIGHT_ON_Y =SCHEDULE THRU DEC 31 LIGHT_ON_W ..
*68 *
*69 *
*70 *
*71 *          $ CONSTRUCTION TYPES
*72 *
*73 *
*74 *
*75 * FLOORCON =CONSTRUCTION U-VALUE = 0.100 ..
*76 * ROOF_CON =CONSTRUCTION U-VALUE = 0.050 ..
*77 * WALL_CON  =CONSTRUCTION U-VALUE = 0.200 ..
*78 * DOOR_CON  =CONSTRUCTION U-VALUE = 1.000 ..
*79 * INWALL    =CONSTRUCTION U-VALUE = 20.000 ..
*80 *
*81 * G_TYPE1   =GLASS-TYPE GLASS-TYPE-CODE = 1
*82 *                PANES = 1
*83 *                GLASS-CONDUCTANCE = 1.130 ..
*84 *
*85 *
*86 *
*87 *
*88 *          $ SPACE DESCRIPTION
*89 *
*90 * RETAIL_SLS =SPACE AREA = 28176.0 VOLUME = 228112.0
*91 *                AZIMUTH = 240 ZONE-TYPE = CONDITIONED
*92 *                PEOPLE-SCHEDULE = PEOPLE_Y NUMBER-OF-PEOPLE = 200.0
*93 *                PEOPLE-HEAT-GAIN = 550.0
*94 *                LIGHTING-TYPE = REC-FLUOR-RV LIGHTING-W/SQFT = 1.35
*95 *                LIGHTING-SCHEDULE = LIGHT_ON_Y
*96 *                INF-METHOD = AIR-CHANGE AIR-CHANGES/HR = 0.5
*97 *                INF-SCHEDULE = FULL_ON ..
*98 *
*99 * U-W HEIGHT = 127.0 WIDTH = 222.0 CONS = FLOORCON
*100 *                AZIMUTH = 240 ..
*101 *
*102 * ROOF HEIGHT = 127.0 WIDTH = 222.0 CONS = ROOF_CON

```

```

* 103 *          AZIMUTH = 240  TILT = 0  ..
* 104 *
* 105 *      E-W      HEIGHT = 12.0  WIDTH = 104.0  CONS = WALL_CON
* 106 *          AZIMUTH = 150  ..
* 107 *
* 108 *      DOOR    HEIGHT = 7.5  WIDTH = 3.0  CONS = DOOR_CON
* 109 *          MULTIPLIER = 2.0  ..
* 110 *
* 111 *      E-W      HEIGHT = 12.0  WIDTH = 52.0  CONS = WALL_CON
* 112 *          AZIMUTH = 60  ..
* 113 *
* 114 *      E-W      HEIGHT = 12.0  WIDTH = 127.0  CONS = WALL_CON
* 115 *          AZIMUTH = 330  ..
* 116 *
* 117 *      DOOR    HEIGHT = 7.5  WIDTH = 3.0  CONS = DOOR_CON ..
* 118 *
* 119 *      I-W      HEIGHT = 12.0  WIDTH = 1000.0  CONS = INWALL
* 120 *          AZIMUTH = 240  NEXT-TO = MALL  ..
* 121 *
* 122 *
* 123 *      MPA      =SPACE  AREA = 13803.0  VOLUME = 165636.0
* 124 *          AZIMUTH = 240  ZONE-TYPE = CONDITIONED
* 125 *          PEOPLE-SCHEDULE = PEOPLE_Y  NUMBER-OF-PEOPLE = 40.0
* 126 *          PEOPLE-HEAT-GAIN = 550.0
* 127 *          LIGHTING-TYPE = REC-FLUOR-RV  LIGHTING-W/SQFT = 1.35
* 128 *          LIGHTING-SCHEDULE = LIGHT_ON_Y
* 129 *          INF-METHOD = AIR-CHANGE  AIR-CHANGES/HR = 0.5
* 130 *          INF-SCHEDULE = FULL_ON  ..
* 131 *
* 132 *      U-W      HEIGHT = 85.0  WIDTH = 163.0  CONS = FLOORCON
* 133 *          AZIMUTH = 240  ..
* 134 *
* 135 *      ROOF     HEIGHT = 85.0  WIDTH = 163.0  CONS = ROOF_CON
* 136 *          AZIMUTH = 240  TILT = 0  ..
* 137 *
* 138 *      E-W      HEIGHT = 12.0  WIDTH = 64.0  CONS = WALL_CON
* 139 *          AZIMUTH = 150  ..
* 140 *
* 141 *      DOOR    HEIGHT = 7.5  WIDTH = 3.0  CONS = DOOR_CON
* 142 *          MULTIPLIER = 2.0  ..
* 143 *
* 144 *      E-W      HEIGHT = 12.0  WIDTH = 163.0  CONS = WALL_CON
* 145 *          AZIMUTH = 240  ..
* 146 *
* 147 *      DOOR    HEIGHT = 7.5  WIDTH = 3.0  CONS = DOOR_CON ..
* 148 *
* 149 *
* 150 *      ADMIN   =SPACE  AREA = 4640.0  VOLUME = 46400.0
* 151 *          AZIMUTH = 240  ZONE-TYPE = CONDITIONED
* 152 *          PEOPLE-SCHEDULE = PEOPLE_Y  NUMBER-OF-PEOPLE = 100.0
* 153 *          PEOPLE-HEAT-GAIN = 550.0
* 154 *          LIGHTING-TYPE = REC-FLUOR-RV  LIGHTING-W/SQFT = 1.35
* 155 *          LIGHTING-SCHEDULE = LIGHT_ON_Y
* 156 *          INF-METHOD = AIR-CHANGE  AIR-CHANGES/HR = 0.5
* 157 *          INF-SCHEDULE = FULL_ON  ..
* 158 *
* 159 *      U-W      HEIGHT = 64.0  WIDTH = 73.0  CONS = FLOORCON
* 160 *          AZIMUTH = 240  ..
* 161 *
* 162 *      ROOF     HEIGHT = 64.0  WIDTH = 73.0  CONS = ROOF_CON
* 163 *          AZIMUTH = 240  TILT = 0  ..
* 164 *
* 165 *      E-W      HEIGHT = 10.0  WIDTH = 64.0  CONS = WALL_CON
* 166 *          AZIMUTH = 330  ..
* 167 *
* 168 *      DOOR    HEIGHT = 7.5  WIDTH = 3.0  CONS = DOOR_CON ..
* 169 *
* 170 *      I-W      HEIGHT = 10.0  WIDTH = 10.0  CONS = INWALL
* 171 *          AZIMUTH = 240  NEXT-TO = MCSS_SALES  ..
* 172 *
* 173 *
* 174 *      FAST_FOOD =SPACE  AREA = 4860.0  VOLUME = 58320.0
* 175 *          AZIMUTH = 240  ZONE-TYPE = CONDITIONED
* 176 *          PEOPLE-SCHEDULE = PEOPLE_Y  NUMBER-OF-PEOPLE = 100.0
* 177 *          PEOPLE-HEAT-GAIN = 550.0
* 178 *          LIGHTING-TYPE = REC-FLUOR-RV  LIGHTING-W/SQFT = 1.35
* 179 *          LIGHTING-SCHEDULE = LIGHT_ON_Y
* 180 *          EQUIP-SCHEDULE = FULL_ON  EQUIPMENT-KW = 15.54
* 181 *          EQUIP-SENSIBLE = 0.0  SOURCE-SCHEDULE = FULL_ON
* 182 *          SOURCE-TYPE = GAS  SOURCE-BTU/HR = 976107.0
* 183 *          SOURCE-SENSIBLE = 0.1  INF-METHOD = AIR-CHANGE
* 184 *          AIR-CHANGES/HR = 0.5  INF-SCHEDULE = FULL_ON  ..
* 185 *
* 186 *      U-W      HEIGHT = 61.0  WIDTH = 80.0  CONS = FLOORCON
* 187 *          AZIMUTH = 240  ..
* 188 *
* 189 *      ROOF     HEIGHT = 61.0  WIDTH = 80.0  CONS = ROOF_CON
* 190 *          AZIMUTH = 240  TILT = 0  ..
* 191 *
* 192 *      E-W      HEIGHT = 10.0  WIDTH = 62.0  CONS = WALL_CON
* 193 *          AZIMUTH = 60  ..
* 194 *
* 195 *      WINDOW   HEIGHT = 6.0  WIDTH = 4.0  G-T = G_TYPE1
* 196 *          MULTIPLIER = 11.0  ..
* 197 *
* 198 *      E-W      HEIGHT = 10.0  WIDTH = 29.0  CONS = WALL_CON
* 199 *          AZIMUTH = 105  ..
* 200 *
* 201 *      DOOR    HEIGHT = 7.5  WIDTH = 3.0  CONS = DOOR_CON ..
* 202 *
* 203 *      E-W      HEIGHT = 10.0  WIDTH = 45.0  CONS = WALL_CON
* 204 *          AZIMUTH = 250  ..
* 205 *
* 206 *      DOOR    HEIGHT = 7.5  WIDTH = 3.0  CONS = DOOR_CON
* 207 *          MULTIPLIER = 2.0  ..
* 208 *
* 209 *
* 210 *      MALL    =SPACE  AREA = 7916.0  VOLUME = 79160.0

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* 211 *      AZIMUTH = 240  ZONE-TYPE = CONDITIONED
* 212 *      PEOPLE-SCHEDULE = PEOPLE_Y  NUMBER-OF-PEOPLE = 100.0
* 213 *      PEOPLE-HEAT-GAIN = 550.0
* 214 *      LIGHTING-TYPE = REC-FLUOR-RV  LIGHTING-W/SQFT = 1.35
* 215 *      LIGHTING-SCHEDULE = LIGHT_ON_Y
* 216 *      INF-METHOD = AIR-CHANGE  AIR-CHANGES/HR = 0.75
* 217 *      INF-SCHEDULE = FULL_ON  ..
* 218 *
* 219 *      U-W      HEIGHT = 50.0  WIDTH = 158.0  CONS = FLOORCON
* 220 *              AZIMUTH = 240  ..
* 221 *
* 222 *      ROOF      HEIGHT = 50.0  WIDTH = 158.0  CONS = ROOF_CON
* 223 *              AZIMUTH = 240  TILT = 0  ..
* 224 *
* 225 *      E-W      HEIGHT = 10.0  WIDTH = 100.0  CONS = WALL_CON
* 226 *              AZIMUTH = 60  ..
* 227 *
* 228 *      E-W      HEIGHT = 10.0  WIDTH = 90.0  CONS = WALL_CON
* 229 *              AZIMUTH = 105  ..
* 230 *
* 231 *      DOOR      HEIGHT = 7.5  WIDTH = 3.0  CONS = DOOR_CON
* 232 *              MULTIPLIER = 2.0  ..
* 233 *
* 234 *
* 235 *  BEAUTY      =SPACE  AREA = 1146.0  VOLUME = 11460.0
* 236 *                  AZIMUTH = 240  ZONE-TYPE = CONDITIONED
* 237 *                  PEOPLE-SCHEDULE = PEOPLE_Y  NUMBER-OF-PEOPLE = 20.0
* 238 *                  PEOPLE-HEAT-GAIN = 550.0
* 239 *                  LIGHTING-TYPE = REC-FLUOR-RV  LIGHTING-W/SQFT = 1.35
* 240 *                  LIGHTING-SCHEDULE = LIGHT_ON_Y
* 241 *                  INF-METHOD = AIR-CHANGE  AIR-CHANGES/HR = 0.5
* 242 *                  INF-SCHEDULE = FULL_ON  ..
* 243 *
* 244 *      U-W      HEIGHT = 23.0  WIDTH = 50.0  CONS = FLOORCON
* 245 *              AZIMUTH = 240  ..
* 246 *
* 247 *      ROOF      HEIGHT = 23.0  WIDTH = 50.0  CONS = ROOF_CON
* 248 *              AZIMUTH = 240  TILT = 0  ..
* 249 *
* 250 *      E-W      HEIGHT = 10.0  WIDTH = 30.0  CONS = WALL_CON
* 251 *              AZIMUTH = 60  ..
* 252 *
* 253 *      E-W      HEIGHT = 10.0  WIDTH = 20.0  CONS = WALL_CON
* 254 *              AZIMUTH = 0  ..
* 255 *
* 256 *
* 257 *  BARBER      =SPACE  AREA = 595.0  VOLUME = 5950.0
* 258 *                  AZIMUTH = 240  ZONE-TYPE = CONDITIONED
* 259 *                  PEOPLE-SCHEDULE = PEOPLE_Y  NUMBER-OF-PEOPLE = 15.0
* 260 *                  PEOPLE-HEAT-GAIN = 550.0
* 261 *                  LIGHTING-TYPE = REC-FLUOR-RV  LIGHTING-W/SQFT = 1.35
* 262 *                  LIGHTING-SCHEDULE = LIGHT_ON_Y
* 263 *                  INF-METHOD = AIR-CHANGE  AIR-CHANGES/HR = 0.5
* 264 *                  INF-SCHEDULE = FULL_ON  ..
* 265 *
* 266 *      U-W      HEIGHT = 19.0  WIDTH = 32.0  CONS = FLOORCON
* 267 *              AZIMUTH = 240  ..
* 268 *
* 269 *      ROOF      HEIGHT = 19.0  WIDTH = 32.0  CONS = ROOF_CON
* 270 *              AZIMUTH = 240  TILT = 0  ..
* 271 *
* 272 *      E-W      HEIGHT = 10.0  WIDTH = 32.0  CONS = WALL_CON
* 273 *              AZIMUTH = 105  ..
* 274 *
* 275 *      I-W      HEIGHT = 10.0  WIDTH = 45.0  CONS = INWALL
* 276 *              AZIMUTH = 150  NEXT-TO = MALL  ..
* 277 *
* 278 *
* 279 *  MCSS_SALES =SPACE  AREA = 7125.0  VOLUME = 85500.0
* 280 *                  AZIMUTH = 285  ZONE-TYPE = CONDITIONED
* 281 *                  PEOPLE-SCHEDULE = PEOPLE_Y  NUMBER-OF-PEOPLE = 50.0
* 282 *                  PEOPLE-HEAT-GAIN = 550.0
* 283 *                  LIGHTING-TYPE = REC-FLUOR-RV  LIGHTING-W/SQFT = 1.35
* 284 *                  LIGHTING-SCHEDULE = LIGHT_ON_Y
* 285 *                  INF-METHOD = AIR-CHANGE  AIR-CHANGES/HR = 0.5
* 286 *                  INF-SCHEDULE = FULL_ON  ..
* 287 *
* 288 *      U-W      HEIGHT = 143.0  WIDTH = 50.0  CONS = FLOORCON
* 289 *              AZIMUTH = 285  ..
* 290 *
* 291 *      ROOF      HEIGHT = 143.0  WIDTH = 50.0  CONS = ROOF_CON
* 292 *              AZIMUTH = 285  TILT = 0  ..
* 293 *
* 294 *      E-W      HEIGHT = 12.0  WIDTH = 100.0  CONS = WALL_CON
* 295 *              AZIMUTH = 195  ..
* 296 *
* 297 *      E-W      HEIGHT = 12.0  WIDTH = 25.0  CONS = WALL_CON
* 298 *              AZIMUTH = 285  ..
* 299 *
* 300 *      DOOR      HEIGHT = 7.5  WIDTH = 3.0  CONS = DOOR_CON
* 301 *              MULTIPLIER = 3.0  ..
* 302 *
* 303 *
* 304 *  MCSS_MPAQ   =SPACE  AREA = 7125.0  VOLUME = 85500.0
* 305 *                  AZIMUTH = 285  ZONE-TYPE = CONDITIONED
* 306 *                  PEOPLE-SCHEDULE = PEOPLE_Y  NUMBER-OF-PEOPLE = 50.0
* 307 *                  PEOPLE-HEAT-GAIN = 550.0
* 308 *                  LIGHTING-TYPE = REC-FLUOR-RV  LIGHTING-W/SQFT = 1.35
* 309 *                  LIGHTING-SCHEDULE = LIGHT_ON_Y
* 310 *                  INF-METHOD = AIR-CHANGE  AIR-CHANGES/HR = 0.5
* 311 *                  INF-SCHEDULE = FULL_ON  ..
* 312 *
* 313 *      U-W      HEIGHT = 143.0  WIDTH = 50.0  CONS = FLOORCON
* 314 *              AZIMUTH = 285  ..
* 315 *
* 316 *      ROOF      HEIGHT = 143.0  WIDTH = 50.0  CONS = ROOF_CON
* 317 *              AZIMUTH = 285  TILT = 0  ..
* 318 *

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* 319 *           E-W      HEIGHT = 12.0  WIDTH = 125.0  CONS = WALL_CON
* 320 *           AZIMUTH = 285  ..
* 321 *
* 322 *           DOOR     HEIGHT = 7.5   WIDTH = 3.0   CONS = DOOR_CON
* 323 *           MULTIPLIER = 3.0  ..
* 324 *
* 325 *           IMAG_WALL =I-W  HEIGHT = 12.0  WIDTH = 1000.0  CONS = INWALL
* 326 *           AZIMUTH = 285  NEXT-TO = MCSS_SALES  ..
* 327 *
* 328 *
* 329 *           GARDEN_SLS =SPACE  AREA = 2184.0  VOLUME = 26208.0
* 330 *           AZIMUTH = 240  ZONE-TYPE = CONDITIONED
* 331 *           PEOPLE-SCHEDULE = PEOPLE_Y  NUMBER-OF-PEOPLE = 40.0
* 332 *           PEOPLE-HEAT-GAIN = 550.0
* 333 *           LIGHTING-TYPE = REC-FLUOR-RV  LIGHTING-W/SQFT = 1.35
* 334 *           LIGHTING-SCHEDULE = LIGHT_ON_Y
* 335 *           INF-METHOD = AIR-CHANGE  AIR-CHANGES/HR = 0.5
* 336 *           INF-SCHEDULE = FULL_ON  ..
* 337 *
* 338 *           U-W      HEIGHT = 57.0  WIDTH = 39.0  CONS = FLOORCON
* 339 *           AZIMUTH = 240  ..
* 340 *
* 341 *           ROOF     HEIGHT = 57.0  WIDTH = 39.0  CONS = ROOF_CON
* 342 *           AZIMUTH = 240  TILT = 0  ..
* 343 *
* 344 *           E-W      HEIGHT = 12.0  WIDTH = 39.0  CONS = WALL_CON
* 345 *           AZIMUTH = 60  ..
* 346 *
* 347 *           E-W      HEIGHT = 12.0  WIDTH = 57.0  CONS = WALL_CON
* 348 *           AZIMUTH = 150  ..
* 349 *
* 350 *           E-W      HEIGHT = 12.0  WIDTH = 39.0  CONS = WALL_CON
* 351 *           AZIMUTH = 240  ..
* 352 *
* 353 *           DOOR     HEIGHT = 7.5   WIDTH = 3.0   CONS = DOOR_CON
* 354 *           MULTIPLIER = 2.0  ..
* 355 *
* 356 *           I-W      HEIGHT = 12.0  WIDTH = 1000.0  CONS = INWALL
* 357 *           AZIMUTH = 150  NEXT-TO = MPA  ..
* 358 *
* 359 *
* 360 *           END  ..
* 361 *           COMPUTE LOADS  ..
* 362 *
* 363 *           INPUT SYSTEMS  ..

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SDL PROCESSOR INPUT DATA

3/18/1995 11:50: 7 SDL RUN 1

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* 364 *
* 365 *
* 366 *
* 367 *          $-----$
* 368 *          $EZ - DOE SYSTEMS INPUT $
* 369 *          $-----$
* 370 *
* 371 *          $ GENERAL PROJECT DATA
* 372 *
* 373 * TITLE LINE-1 * EMC ENGINEERS INC. *
* 374 * LINE-2 *BZDOE - ELITE SOFTWARE DEVELOPMENT INC*
* 375 * LINE-3 * DENVER, CO 80227 *
* 376 *
* 377 * LINE-4 *BLDG 10730 EXCHANGE MAIN RETAIL AND *
* 378 * LINE-5 *CLOTHING,MODEL W SB, ECON., & DDC * ..
* 379 * ABORT ERRORS ..
* 380 * DIAGNOSTIC WARNINGS ..
* 381 * SYSTEMS-REPORT SUMMARY=(SS-A,SS-C,SS-K,SS-O) ..
* 382 *
* 383 *          $ SCHEDULES
* 384 *
* 385 * FULL_ON_D =DAY-SCHEDULE (1,24) (1.) ..
* 386 * FULL_OFF_D =DAY-SCHEDULE (1,24) (0.) ..
* 387 * HEAT_68_D =DAY-SCHEDULE (1,24) (68.) ..
* 388 * COOL_75_D =DAY-SCHEDULE (1,5) (85.)
* 389 * (6,21) (75.)
* 390 * (22,24) (85.) ..
* 391 * FAN_ON_D =DAY-SCHEDULE (1,24) (1.) ..
* 392 * FAN_WSBA_D =DAY-SCHEDULE (1,8) (0.)
* 393 * (9,18) (1.)
* 394 * (19,24) (0.) ..
* 395 * FAN_WSBB_D =DAY-SCHEDULE (1,9) (0.)
* 396 * (10,16) (1.)
* 397 * (17,24) (0.) ..
* 398 * FAN_WSBC_D =DAY-SCHEDULE (1,8) (0.)
* 399 * (9,16) (1.)
* 400 * (17,24) (0.) ..
* 401 * FAN_WSBD_D =DAY-SCHEDULE (1,8) (0.)
* 402 * (9,15) (1.)
* 403 * (16,24) (0.) ..
* 404 * FAN_WSBE_D =DAY-SCHEDULE (1,9) (0.)
* 405 * (10,14) (1.)
* 406 * (15,24) (0.) ..
* 407 * FAN_WSBF_D =DAY-SCHEDULE (1,9) (0.)
* 408 * (10,17) (1.)
* 409 * (18,24) (0.) ..
* 410 * FAN_WSBG_D =DAY-SCHEDULE (1,8) (0.)
* 411 * (9,16) (1.)
* 412 * (17,24) (0.) ..
* 413 * HT_WSBA_D =DAY-SCHEDULE (1,8) (50.)
* 414 * (9,18) (68.)
* 415 * (19,24) (50.) ..
* 416 * HT_WSBB_D =DAY-SCHEDULE (1,9) (50.)
* 417 * (10,16) (68.)
* 418 * (17,24) (50.) ..
* 419 * HT_WSBC_D =DAY-SCHEDULE (1,8) (50.)
* 420 * (9,16) (68.)
* 421 * (17,24) (50.) ..
* 422 * HT_WSBD_D =DAY-SCHEDULE (1,8) (50.)
* 423 * (9,15) (68.)
* 424 * (16,24) (50.) ..
* 425 * HT_WSBE_D =DAY-SCHEDULE (1,9) (50.)
* 426 * (10,14) (68.)
* 427 * (15,24) (50.) ..
* 428 * HT_WSBF_D =DAY-SCHEDULE (1,9) (50.)
* 429 * (10,17) (68.)
* 430 * (18,24) (50.) ..
* 431 * HT_WSBG_D =DAY-SCHEDULE (1,8) (50.)
* 432 * (9,16) (68.)
* 433 * (17,24) (50.) ..
* 434 * CL_WSBA_D =DAY-SCHEDULE (1,8) (85.)
* 435 * (9,18) (78.)
* 436 * (19,24) (85.) ..
* 437 * CL_WSBB_D =DAY-SCHEDULE (1,9) (85.)
* 438 * (10,16) (78.)
* 439 * (17,24) (85.) ..
* 440 * CL_WSBC_D =DAY-SCHEDULE (1,8) (85.)
* 441 * (9,16) (78.)
* 442 * (17,24) (85.) ..
* 443 * CL_WSBD_D =DAY-SCHEDULE (1,8) (85.)
* 444 * (9,15) (78.)
* 445 * (16,24) (85.) ..
* 446 * CL_WSBE_D =DAY-SCHEDULE (1,9) (85.)
* 447 * (10,14) (78.)
* 448 * (15,24) (85.) ..
* 449 * CL_WSBF_D =DAY-SCHEDULE (1,9) (85.)
* 450 * (10,17) (78.)
* 451 * (18,24) (85.) ..
* 452 * CL_WSBG_D =DAY-SCHEDULE (1,8) (85.)
* 453 * (9,16) (78.)
* 454 * (17,24) (85.) ..
* 455 * FULL_ON_W =WEEK-SCHEDULE (ALL) FULL_ON_D ..
* 456 *
* 457 * FULL_OFF_W =WEEK-SCHEDULE (ALL) FULL_OFF_D ..
* 458 *
* 459 * HEAT_70_W =WEEK-SCHEDULE (ALL) HEAT_68_D ..
* 460 *
* 461 * COOL_75_W =WEEK-SCHEDULE (ALL) COOL_75_D ..
* 462 *
* 463 * FAN_ON_W =WEEK-SCHEDULE (ALL) FAN_ON_D ..

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* 464 *
* 465 * FAN_WSB1_W =WEEK-SCHEDULE (WD) FAN_WSBA_D
* 466 * (SAT) FAN_WSBA_D
* 467 * (SUN) FAN_WSB_B_D
* 468 * (HOL) FAN_WSBA_D ..
* 469 *
* 470 * FAN_WSB2_W =WEEK-SCHEDULE (WD) FAN_WSB_C_D
* 471 * (SAT) FAN_WSB_D_D
* 472 * (SUN) FAN_WSB_E_D
* 473 * (HOL) FAN_WSB_C_D ..
* 474 *
* 475 * FAN_WSB3_W =WEEK-SCHEDULE (WD) FAN_WSBF_D
* 476 * (SAT) FAN_WSBG_D
* 477 * (SUN) FAN_WSBG_D
* 478 * (HOL) FAN_WSBF_D ..
* 479 *
* 480 * HT_WSB1_W =WEEK-SCHEDULE (WD) HT_WSBA_D
* 481 * (SAT) HT_WSBA_D
* 482 * (SUN) HT_WSB_B_D
* 483 * (HOL) HT_WSBA_D ..
* 484 *
* 485 * HT_WSB2_W =WEEK-SCHEDULE (WD) HT_WSB_C_D
* 486 * (SAT) HT_WSB_D_D
* 487 * (SUN) HT_WSB_E_D
* 488 * (HOL) HT_WSB_C_D ..
* 489 *
* 490 * HT_WSB3_W =WEEK-SCHEDULE (WD) HT_WSBF_D
* 491 * (SAT) HT_WSBG_D
* 492 * (SUN) HT_WSBG_D
* 493 * (HOL) HT_WSBF_D ..
* 494 *
* 495 * CL_WSB1_W =WEEK-SCHEDULE (WD) CL_WSBA_D
* 496 * (SAT) CL_WSBA_D
* 497 * (SUN) CL_WSB_B_D
* 498 * (HOL) CL_WSBA_D ..
* 499 *
* 500 * CL_WSB2_W =WEEK-SCHEDULE (WD) CL_WSB_C_D
* 501 * (SAT) CL_WSB_D_D
* 502 * (SUN) CL_WSB_E_D
* 503 * (HOL) CL_WSB_C_D ..
* 504 *
* 505 * CL_WSB3_W =WEEK-SCHEDULE (WD) CL_WSB_E_D
* 506 * (SAT) CL_WSBF_D
* 507 * (SUN) CL_WSBF_D
* 508 * (HOL) CL_WSB_E_D ..
* 509 *
* 510 *
* 511 * FULL_ON =SCHEDULE THRU DEC 31 FULL_ON_W ..
* 512 *
* 513 * FULL_OFF =SCHEDULE THRU DEC 31 FULL_OFF_W ..
* 514 *
* 515 * $ HEATING SCHEDULE
* 516 * HEAT_68_SC =SCHEDULE THRU DEC 31 HEAT_70_W ..
* 517 *
* 518 * $ COOLING SCHEDULE
* 519 * COOL_75_SC =SCHEDULE THRU DEC 31 COOL_75_W ..
* 520 *
* 521 * $ FAN SCHEDULE
* 522 * FAN_ON_SCD =SCHEDULE THRU DEC 31 FAN_ON_W ..
* 523 *
* 524 * $ SCHD FOR MAIN STORE
* 525 * FAN_WSB1 =SCHEDULE THRU DEC 31 FAN_WSB1_W ..
* 526 *
* 527 * $ SCHD FOR CLOTHING SALES
* 528 * FAN_WSB2 =SCHEDULE THRU DEC 31 FAN_WSB2_W ..
* 529 *
* 530 * $ SCHD FOR FOOD COURT
* 531 * FAN_WSB3 =SCHEDULE THRU DEC 31 FAN_WSB3_W ..
* 532 *
* 533 * $ SCHD FOR MAIN STORE
* 534 * HT68_WSB_1 =SCHEDULE THRU DEC 31 HT_WSB1_W ..
* 535 *
* 536 * $ SCHD FOR CLOTHING SALES
* 537 * HT68_WSB_2 =SCHEDULE THRU DEC 31 HT_WSB2_W ..
* 538 *
* 539 * $ SCHD FOR FOOD COURT
* 540 * HT68_WSB_3 =SCHEDULE THRU DEC 31 HT_WSB3_W ..
* 541 *
* 542 * $ SCHD FOR MAIN STORE
* 543 * CL75_WSB_1 =SCHEDULE THRU DEC 31 CL_WSB1_W ..
* 544 *
* 545 * $ SCHD FOR CLOTHING SALES
* 546 * CL75_WSB_2 =SCHEDULE THRU DEC 31 CL_WSB2_W ..
* 547 *
* 548 * $ SCHD FOR FOOD COURT
* 549 * CL75_WSB_3 =SCHEDULE THRU DEC 31 CL_WSB3_W ..
* 550 *
* 551 *
* 552 *
* 553 * $ ZONE DESCRIPTION
* 554 *
* 555 * RETAIL_SLS =ZONE DESIGN-HEAT-T = 70.0 DESIGN-COOL-T = 75.0
* 556 * HEAT-TEMP-SCH = HT68_WSB_1 COOL-TEMP-SCH = CL75_WSB_1
* 557 * ZONE-TYPE = CONDITIONED
* 558 * THERMOSTAT-TYPE = PROPORTIONAL
* 559 * BASEBOARD-CTRL = THERMOSTATIC ASSIGNED-CFM = 26700.
* 560 * OUTSIDE-AIR-CFM = 3290. SIZING-OPTION = FROM-LOADS
* 561 * RATED-CFM = 26700.0 MIN-CFM-RATIO = 1.0 ..
* 562 *
* 563 * MPA =ZONE DESIGN-HEAT-T = 70.0 DESIGN-COOL-T = 75.0
* 564 * HEAT-TEMP-SCH = HT68_WSB_1 COOL-TEMP-SCH = CL75_WSB_1
* 565 * ZONE-TYPE = CONDITIONED
* 566 * THERMOSTAT-TYPE = PROPORTIONAL
* 567 * BASEBOARD-CTRL = THERMOSTATIC
* 568 * BASEBOARD-RATING = -500000. ASSIGNED-CFM = 7800.
* 569 * OUTSIDE-AIR-CFM = 1388. SIZING-OPTION = FROM-LOADS
* 570 * RATED-CFM = 7800.0 MIN-CFM-RATIO = 1.0 ..
* 571 *

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* 572 * ADMIN      =ZONE  DESIGN-HEAT-T = 70.0 DESIGN-COOL-T = 75.0
* 573 *             HEAT-TEMP-SCH = HT68 WSB_1 COOL-TEMP-SCH = CL75_WSB_1
* 574 *             ZONE-TYPE = CONDITIONED
* 575 *             THERMOSTAT-TYPE = PROPORTIONAL
* 576 *             BASEBOARD-CTRL = THERMOSTATIC ASSIGNED-CFM = 4000.
* 577 *             OUTSIDE-AIR-CFM = 475. SIZING-OPTION = FROM-LOADS
* 578 *             RATED-CFM = 4000.0 MIN-CFM-RATIO = 1.0 ..
* 579 *
* 580 * FAST_FOOD  =ZONE  DESIGN-HEAT-T = 70.0 DESIGN-COOL-T = 75.0
* 581 *             HEAT-TEMP-SCH = HT68 WSB_3 COOL-TEMP-SCH = CL75_WSB_3
* 582 *             ZONE-TYPE = CONDITIONED
* 583 *             THERMOSTAT-TYPE = PROPORTIONAL
* 584 *             BASEBOARD-CTRL = THERMOSTATIC
* 585 *             BASEBOARD-RATING = -11500000. ASSIGNED-CFM = 8470.
* 586 *             OUTSIDE-AIR-CFM = 4250. SIZING-OPTION = FROM-LOADS
* 587 *             RATED-CFM = 8470.0 MIN-CFM-RATIO = 1.0 ..
* 588 *
* 589 * MALL       =ZONE  DESIGN-HEAT-T = 70.0 DESIGN-COOL-T = 75.0
* 590 *             HEAT-TEMP-SCH = HT68 WSB_1 COOL-TEMP-SCH = CL75_WSB_1
* 591 *             ZONE-TYPE = CONDITIONED
* 592 *             THERMOSTAT-TYPE = PROPORTIONAL
* 593 *             BASEBOARD-CTRL = THERMOSTATIC
* 594 *             BASEBOARD-RATING = -1811500. ASSIGNED-CFM = 9650.
* 595 *             OUTSIDE-AIR-CFM = 850. SIZING-OPTION = FROM-LOADS
* 596 *             RATED-CFM = 9650.0 MIN-CFM-RATIO = 1.0 ..
* 597 *
* 598 * BEAUTY     =ZONE  DESIGN-HEAT-T = 70.0 DESIGN-COOL-T = 75.0
* 599 *             HEAT-TEMP-SCH = HT68 WSB_1 COOL-TEMP-SCH = CL75_WSB_1
* 600 *             ZONE-TYPE = CONDITIONED
* 601 *             THERMOSTAT-TYPE = PROPORTIONAL
* 602 *             BASEBOARD-CTRL = THERMOSTATIC
* 603 *             BASEBOARD-RATING = -500000. ASSIGNED-CFM = 1837.
* 604 *             OUTSIDE-AIR-CFM = 200. SIZING-OPTION = FROM-LOADS
* 605 *             RATED-CFM = 1837.0 MIN-CFM-RATIO = 1.0 ..
* 606 *
* 607 * BARBER     =ZONE  DESIGN-HEAT-T = 70.0 DESIGN-COOL-T = 75.0
* 608 *             HEAT-TEMP-SCH = HT68 WSB_1 COOL-TEMP-SCH = CL75_WSB_1
* 609 *             ZONE-TYPE = CONDITIONED
* 610 *             THERMOSTAT-TYPE = PROPORTIONAL
* 611 *             BASEBOARD-CTRL = THERMOSTATIC ASSIGNED-CFM = 1000.
* 612 *             OUTSIDE-AIR-CFM = 100. SIZING-OPTION = FROM-LOADS
* 613 *             RATED-CFM = 1000.0 MIN-CFM-RATIO = 1.0 ..
* 614 *
* 615 * MCSS_SALES =ZONE  DESIGN-HEAT-T = 70.0 DESIGN-COOL-T = 75.0
* 616 *             HEAT-TEMP-SCH = HT68 WSB_2 COOL-TEMP-SCH = CL75_WSB_2
* 617 *             ZONE-TYPE = CONDITIONED
* 618 *             THERMOSTAT-TYPE = PROPORTIONAL
* 619 *             BASEBOARD-CTRL = THERMOSTATIC
* 620 *             BASEBOARD-RATING = -1000000. ASSIGNED-CFM = 6576.
* 621 *             OUTSIDE-AIR-CFM = 776. SIZING-OPTION = FROM-LOADS
* 622 *             RATED-CFM = 6576.0 MIN-CFM-RATIO = 1.0 ..
* 623 *
* 624 * MCSS_MPAQ  =ZONE  DESIGN-HEAT-T = 70.0 DESIGN-COOL-T = 75.0
* 625 *             HEAT-TEMP-SCH = HT68 WSB_2 COOL-TEMP-SCH = CL75_WSB_2
* 626 *             ZONE-TYPE = CONDITIONED
* 627 *             THERMOSTAT-TYPE = PROPORTIONAL
* 628 *             BASEBOARD-CTRL = THERMOSTATIC
* 629 *             BASEBOARD-RATING = -56000. ASSIGNED-CFM = 3850.
* 630 *             OUTSIDE-AIR-CFM = 533. SIZING-OPTION = FROM-LOADS
* 631 *             RATED-CFM = 3850.0 MIN-CFM-RATIO = 1.0 ..
* 632 *
* 633 * GARDEN_SLS =ZONE  DESIGN-HEAT-T = 70.0 DESIGN-COOL-T = 75.0
* 634 *             HEAT-TEMP-SCH = HT68 WSB_1 COOL-TEMP-SCH = CL75_WSB_1
* 635 *             ZONE-TYPE = CONDITIONED
* 636 *             THERMOSTAT-TYPE = PROPORTIONAL
* 637 *             BASEBOARD-CTRL = THERMOSTATIC ASSIGNED-CFM = 1800.
* 638 *             OUTSIDE-AIR-CFM = 180. SIZING-OPTION = FROM-LOADS
* 639 *             RATED-CFM = 1800.0 MIN-CFM-RATIO = 1.0 ..
* 640 *
* 641 *
* 642 * $ SYSTEM DESCRIPTION
* 643 *
* 644 * AHU_1       =SYSTEM SYSTEM-TYPE = SZRH
* 645 *             MAX-SUPPLY-T = 135.0 MIN-SUPPLY-T = 55.0
* 646 *             HEAT-SET-T = 135.0 MIN-HUMIDITY = 30.0
* 647 *             ECONO-LIMIT-T = 65.0 ECONO-LOW-LIMIT = 55.0
* 648 *             SUPPLY-CFM = 26700. RETURN-CFM = 23410.
* 649 *             RATED-CFM = 26700. MIN-OUTSIDE-AIR = 0.12
* 650 *             MAX-OA-FRACTION = 0.88 FAN-SCHEDULE = FAN_WSB1
* 651 *             SUPPLY-STATIC = 4.0 SUPPLY-EFF = 0.6
* 652 *             MOTOR-PLACEMENT = OUTSIDE-AIRFLOW
* 653 *             NIGHT-CYCLE-CTRL = CYCLE-ON-ANY NIGHT-VENT-DT = 0.0
* 654 *             MIN-CFM-RATIO = 1.0 COOLING-CAPACITY = 870000.
* 655 *             HEATING-CAPACITY = -595000. FURNACE-AUX = 0.
* 656 *             PREHEAT-SOURCE = HOT-WATER
* 657 *             ZONE-NAMES = (RETAIL_SLS) ..
* 658 *
* 659 * AHU_2       =SYSTEM SYSTEM-TYPE = SZRH
* 660 *             MAX-SUPPLY-T = 135.0 MIN-SUPPLY-T = 55.0
* 661 *             HEAT-SET-T = 135.0 MIN-HUMIDITY = 30.0
* 662 *             ECONO-LIMIT-T = 65.0 ECONO-LOW-LIMIT = 55.0
* 663 *             SUPPLY-CFM = 7800. RETURN-CFM = 6412.
* 664 *             RATED-CFM = 7800. MIN-OUTSIDE-AIR = 0.18
* 665 *             MAX-OA-FRACTION = 0.82 FAN-SCHEDULE = FAN_WSB1
* 666 *             SUPPLY-STATIC = 3.5 SUPPLY-EFF = 0.6
* 667 *             MOTOR-PLACEMENT = OUTSIDE-AIRFLOW
* 668 *             NIGHT-CYCLE-CTRL = CYCLE-ON-ANY NIGHT-VENT-DT = 0.0
* 669 *             MIN-CFM-RATIO = 1.0 COOLING-CAPACITY = 199600.
* 670 *             HEATING-CAPACITY = -323500. FURNACE-AUX = 0.
* 671 *             PREHEAT-SOURCE = HOT-WATER
* 672 *             ZONE-NAMES = (MPA) ..
* 673 *
* 674 * AHU_3       =SYSTEM SYSTEM-TYPE = SZRH
* 675 *             MAX-SUPPLY-T = 135.0 MIN-SUPPLY-T = 55.0
* 676 *             HEAT-SET-T = 55.0 PREHEAT-T = 20.0
* 677 *             MIN-HUMIDITY = 30.0 ECONO-LIMIT-T = 65.0
* 678 *             ECONO-LOW-LIMIT = 55.0 SUPPLY-CFM = 4000.
* 679 *             RETURN-CFM = 3525. RATED-CFM = 4000.

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* 680 *      MIN-OUTSIDE-AIR = 0.12 MAX-OA-FRACTION = 0.88
* 681 *      FAN-SCHEDULE = FAN_WSB1 SUPPLY-STATIC = 3.75
* 682 *      SUPPLY-EFF = 0.6 MOTOR-PLACEMENT = OUTSIDE-AIRFLOW
* 683 *      NIGHT-CYCLE-CTRL = CYCLE-ON-ANY NIGHT-VENT-DT = 0.0
* 684 *      MIN-CFM-RATIO = 1.0 REHEAT-DELTA-T = 30.
* 685 *      COOLING-CAPACITY = 120500.
* 686 *      HEATING-CAPACITY = -105000. FURNACE-AUX = 0.
* 687 *      ZONE-NAMES = (ADMIN) ..
* 688 *
* 689 * AHU_5      =SYSTEM  SYSTEM-TYPE = SZRH
* 690 *      MAX-SUPPLY-T = 135.0 MIN-SUPPLY-T = 55.0
* 691 *      HEAT-SET-T = 55.0 PREHEAT-T = 55.0
* 692 *      MIN-HUMIDITY = 30.0 ECONO-LIMIT-T = 65.0
* 693 *      ECONO-LOW-LIMIT = 55.0 SUPPLY-CFM = 9650.
* 694 *      RETURN-CFM = 8800. RATED-CFM = 9650.
* 695 *      MIN-OUTSIDE-AIR = 0.1 MAX-OA-FRACTION = 0.9
* 696 *      FAN-SCHEDULE = FAN_WSB1 SUPPLY-STATIC = 3.75
* 697 *      SUPPLY-EFF = 0.6 MOTOR-PLACEMENT = OUTSIDE-AIRFLOW
* 698 *      NIGHT-CYCLE-CTRL = CYCLE-ON-ANY NIGHT-VENT-DT = 0.0
* 699 *      MIN-CFM-RATIO = 1.0 REHEAT-DELTA-T = 30.
* 700 *      COOLING-CAPACITY = 197580.
* 701 *      HEATING-CAPACITY = -207300. FURNACE-AUX = 0.
* 702 *      ZONE-NAMES = (MALL) ..
* 703 *
* 704 * AHU_4      =SYSTEM  SYSTEM-TYPE = SZRH
* 705 *      MAX-SUPPLY-T = 135.0 MIN-SUPPLY-T = 55.0
* 706 *      HEAT-SET-T = 135.0 MIN-HUMIDITY = 30.0
* 707 *      ECONO-LIMIT-T = 65.0 ECONO-LOW-LIMIT = 55.0
* 708 *      SUPPLY-CFM = 8470. RETURN-CFM = 4220.
* 709 *      RATED-CFM = 8470. MIN-OUTSIDE-AIR = 0.5
* 710 *      MAX-OA-FRACTION = 0.91 FAN-SCHEDULE = FAN_WSB3
* 711 *      SUPPLY-STATIC = 3.5 SUPPLY-EFF = 0.6
* 712 *      MOTOR-PLACEMENT = OUTSIDE-AIRFLOW
* 713 *      NIGHT-CYCLE-CTRL = CYCLE-ON-ANY NIGHT-VENT-DT = 0.0
* 714 *      MIN-CFM-RATIO = 1.0 COOLING-CAPACITY = 283500.
* 715 *      HEATING-CAPACITY = -189400. FURNACE-AUX = 0.
* 716 *      PREHEAT-SOURCE = HOT-WATER
* 717 *      ZONE-NAMES = (FAST_FOOD) ..
* 718 *
* 719 * AHU_6      =SYSTEM  SYSTEM-TYPE = SZRH
* 720 *      MAX-SUPPLY-T = 135.0 MIN-SUPPLY-T = 55.0
* 721 *      HEAT-SET-T = 135.0 MIN-HUMIDITY = 30.0
* 722 *      ECONO-LIMIT-T = 65.0 ECONO-LOW-LIMIT = 55.0
* 723 *      SUPPLY-CFM = 1837. RETURN-CFM = 1637.
* 724 *      RATED-CFM = 1837. MIN-OUTSIDE-AIR = 0.12
* 725 *      MAX-OA-FRACTION = 0.88 FAN-SCHEDULE = FAN_WSB1
* 726 *      SUPPLY-STATIC = 2.75 SUPPLY-EFF = 0.6
* 727 *      MOTOR-PLACEMENT = OUTSIDE-AIRFLOW
* 728 *      NIGHT-CYCLE-CTRL = CYCLE-ON-ANY NIGHT-VENT-DT = 0.0
* 729 *      MIN-CFM-RATIO = 1.0 COOLING-CAPACITY = 71000.
* 730 *      HEATING-CAPACITY = -30700. FURNACE-AUX = 0.
* 731 *      PREHEAT-SOURCE = HOT-WATER
* 732 *      ZONE-NAMES = (BEAUTY) ..
* 733 *
* 734 * AHU_7      =SYSTEM  SYSTEM-TYPE = SZRH
* 735 *      MAX-SUPPLY-T = 135.0 MIN-SUPPLY-T = 55.0
* 736 *      HEAT-SET-T = 135.0 MIN-HUMIDITY = 30.0
* 737 *      ECONO-LIMIT-T = 65.0 ECONO-LOW-LIMIT = 55.0
* 738 *      SUPPLY-CFM = 1000. RETURN-CFM = 900.
* 739 *      RATED-CFM = 1000. MIN-OUTSIDE-AIR = 0.12
* 740 *      MAX-OA-FRACTION = 0.89 FAN-SCHEDULE = FAN_WSB1
* 741 *      SUPPLY-STATIC = 2.75 SUPPLY-EFF = 0.6
* 742 *      MOTOR-PLACEMENT = OUTSIDE-AIRFLOW
* 743 *      NIGHT-CYCLE-CTRL = CYCLE-ON-ANY NIGHT-VENT-DT = 0.0
* 744 *      MIN-CFM-RATIO = 1.0 COOLING-CAPACITY = 20900.
* 745 *      HEATING-CAPACITY = -22450. FURNACE-AUX = 0.
* 746 *      PREHEAT-SOURCE = HOT-WATER
* 747 *      ZONE-NAMES = (BARBER) ..
* 748 *
* 749 * AHU_8      =SYSTEM  SYSTEM-TYPE = SZRH
* 750 *      MAX-SUPPLY-T = 135.0 MIN-SUPPLY-T = 55.0
* 751 *      HEAT-SET-T = 135.0 MIN-HUMIDITY = 30.0
* 752 *      ECONO-LIMIT-T = 65.0 ECONO-LOW-LIMIT = 55.0
* 753 *      SUPPLY-CFM = 6576. RETURN-CFM = 5800.
* 754 *      RATED-CFM = 6576. MIN-OUTSIDE-AIR = 0.12
* 755 *      MAX-OA-FRACTION = 0.88 FAN-SCHEDULE = FAN_WSB2
* 756 *      SUPPLY-STATIC = 3.5 SUPPLY-EFF = 0.6
* 757 *      MOTOR-PLACEMENT = OUTSIDE-AIRFLOW
* 758 *      NIGHT-CYCLE-CTRL = CYCLE-ON-ANY NIGHT-VENT-DT = 0.0
* 759 *      MIN-CFM-RATIO = 1.0 COOLING-CAPACITY = 214000.
* 760 *      HEATING-CAPACITY = -111100. FURNACE-AUX = 0.
* 761 *      PREHEAT-SOURCE = HOT-WATER
* 762 *      ZONE-NAMES = (MCSS_SALES) ..
* 763 *
* 764 * AHU_9      =SYSTEM  SYSTEM-TYPE = SZRH
* 765 *      MAX-SUPPLY-T = 135.0 MIN-SUPPLY-T = 55.0
* 766 *      HEAT-SET-T = 135.0 MIN-HUMIDITY = 30.0
* 767 *      ECONO-LIMIT-T = 65.0 ECONO-LOW-LIMIT = 55.0
* 768 *      SUPPLY-CFM = 3850. RETURN-CFM = 3317.
* 769 *      RATED-CFM = 3850. MIN-OUTSIDE-AIR = 0.14
* 770 *      MAX-OA-FRACTION = 0.86 FAN-SCHEDULE = FAN_WSB2
* 771 *      SUPPLY-STATIC = 2.5 SUPPLY-EFF = 0.6
* 772 *      MOTOR-PLACEMENT = OUTSIDE-AIRFLOW
* 773 *      NIGHT-CYCLE-CTRL = CYCLE-ON-ANY NIGHT-VENT-DT = 0.0
* 774 *      MIN-CFM-RATIO = 1.0 COOLING-CAPACITY = 96900.
* 775 *      HEATING-CAPACITY = -163100. FURNACE-AUX = 0.
* 776 *      PREHEAT-SOURCE = HOT-WATER
* 777 *      ZONE-NAMES = (MCSS_MPAQ) ..
* 778 *
* 779 * AHU_10     =SYSTEM  SYSTEM-TYPE = SZRH
* 780 *      MAX-SUPPLY-T = 135.0 MIN-SUPPLY-T = 55.0
* 781 *      HEAT-SET-T = 135.0 MIN-HUMIDITY = 30.0
* 782 *      ECONO-LIMIT-T = 65.0 ECONO-LOW-LIMIT = 55.0
* 783 *      SUPPLY-CFM = 1800. RETURN-CFM = 1620.
* 784 *      RATED-CFM = 1800. MIN-OUTSIDE-AIR = 0.1
* 785 *      FAN-SCHEDULE = FAN_WSB1 SUPPLY-STATIC = 2.5
* 786 *      SUPPLY-EFF = 0.6 MOTOR-PLACEMENT = OUTSIDE-AIRFLOW
* 787 *      NIGHT-CYCLE-CTRL = CYCLE-ON-ANY NIGHT-VENT-DT = 0.0

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* 788 *           MIN-CFM-RATIO = 1.0  COOLING-CAPACITY = 62700.
* 789 *           HEATING-CAPACITY = -65500.  FURNACE-AUX = 0.
* 790 *           PREHEAT-SOURCE = HOT-WATER
* 791 *           ZONE-NAMES = (GARDEN_SLS)  ..
* 792 *
* 793 * END  ..
* 794 * COMPUTE SYSTEMS  ..
* 795 *
* 796 * INPUT PLANT  ..
```

PDL PROCESSOR INPUT DATA

3/18/1995 11:50: 7 PDL RUN 1

```

* 797 *
* 798 *
* 799 *
* 800 * $-----$
* 801 * $EZ - DOE PLANTS INPUT$
* 802 * $-----$
* 803 *
* 804 * $ GENERAL PROJECT DATA
* 805 *
* 806 * TITLE LINE-1 * EMC ENGINEERS INC. *
* 807 * LINE-2 *EZDOE - ELITE SOFTWARE DEVELOPMENT INC*
* 808 * LINE-3 * DENVER, CO 80227 *
* 809 *
* 810 * LINE-4 *BLDG 10730 EXCHANGE MAIN RETAIL AND *
* 811 * LINE-5 *CLOTHING,MODEL W SB, ECON., & DDC * ..
* 812 *
* 813 * ABORT ERRORS ..
* 814 * DIAGNOSTIC WARNINGS ..
* 815 * PLANT-REPORT SUMMARY=(PS-A,PS-B,BEPS)
* 816 * ..
* 817 *
* 818 * $ SCHEDULES
* 819 *
* 820 * FULL_ON_D =DAY-SCHEDULE (1,24) (1.) ..
* 821 *
* 822 * FULL_ON_W =WEEK-SCHEDULE (ALL) FULL_ON_D ..
* 823 *
* 824 *
* 825 * FULL_ON =SCHEDULE THRU DEC 31 FULL_ON_W ..
* 826 *
* 827 *
* 828 *
* 829 *
* 830 * $ EQUIPMENT DESCRIPTION
* 831 *
* 832 * HTHW_HX =PLANT-EQUIPMENT TYPE = HTANK-STORAGE
* 833 * SIZE = 2.1 ..
* 834 *
* 835 * ACC1&2 =PLANT-EQUIPMENT TYPE = OPEN-REC-CHLR
* 836 * SIZE = 1.1 INSTALLED-NUMBER = 2
* 837 * MAX-NUMBER-AVAIL = 2 ..
* 838 *
* 839 * PLANT-PARAMETERS OPEN-REC-COND-TYPE = AIR CHILL-WTR-T = 43.
* 840 * CCIRC-IMPELLER-EFF = 0.67 CCIRC-HEAD = 100.0
* 841 * HCIRC-IMPELLER-EFF = 0.73 HCIRC-HEAD = 95.0 ..
* 842 *
* 843 * ENERGY-RESOURCE RESOURCE = ELECTRICITY ..
* 844 * ENERGY-RESOURCE RESOURCE = STEAM ..
* 845 * ENERGY-RESOURCE RESOURCE = NATURAL-GAS ..
* 846 *
* 847 * ENERGY-STORAGE HEAT-STORE-RATE = 2.11 HEAT-SUPPLY-RATE = 2.11
* 848 * HTANK-BASE-T = 195.0 HTANK-T-RANGE = 5.0
* 849 * HEAT-STORE-SCH = FULL_ON ..
* 850 *
* 851 * HEAT-RECOVERY
* 852 * SUPPLY-1 = (HTANK-STORAGE)
* 853 * DEMAND-1 = (SPACE-HEAT,PROCESS-HEAT) ..
* 854 *
* 855 *
* 856 *
* 857 * END ..
* 858 * COMPUTE PLANT ..
* 859 * STOP ..

```

ENERGY TYPE IN SITE MBTU-	STEAM	ELECTRICITY	NATURAL-GAS
CATEGORY OF USE			
SPACE HEAT	3,053.73	0.00	0.00
SPACE COOL	0.00	148.88	0.00
HVAC AUX	0.00	774.78	0.00
DOM HOT WTR	0.00	0.00	0.00
AUX SOLAR	0.00	0.00	0.00
LIGHTS	0.00	1,539.31	0.00
VERT TRANS	0.00	0.00	0.00
MISC EQUIP	0.00	464.57	8,549.75
	-----	-----	-----
TOTAL	3,053.73	2,927.54	8,549.75

TOTAL SITE ENERGY 14532.06 MBTU 187.3 KBTU/SQFT-YR GROSS-AREA 187.3 KBTU/SQFT-YR NET-AREA  
 TOTAL SOURCE ENERGY 22431.90 MBTU 289.2 KBTU/SQFT-YR GROSS-AREA 289.2 KBTU/SQFT-YR NET-AREA

PERCENT OF HOURS ANY SYSTEM ZONE OUTSIDE OF THROTTLING RANGE = 11.2  
 PERCENT OF HOURS ANY PLANT LOAD NOT SATISFIED = 0.0

NOTE ELECTRICITY AND/OR FUEL USED TO GENERATE ELECTRICITY IS APPORTIONED BASED  
 ON THE YEARLY DEMAND. ALL OTHER ENERGY TYPES ARE APPORTIONED HOURLY.

MO	UTILITY-	STEAM	ELECTRICITY	NATURAL-GAS
	TOTAL (MBTU)	752.464	231.643	726.225
JAN	PEAK (KBTU)	5619.318	624.907	976.107
	DY/HR	5/10	29/14	31/24
	TOTAL (MBTU)	512.610	208.109	655.944
FEB	PEAK (KBTU)	5335.593	625.013	976.107
	DY/HR	5/ 9	8/12	28/24
	TOTAL (MBTU)	515.718	230.817	726.225
MAR	PEAK (KBTU)	5269.862	625.009	976.107
	DY/HR	27/10	11/12	31/24
	TOTAL (MBTU)	267.568	230.732	702.798
APR	PEAK (KBTU)	4108.533	678.164	976.107
	DY/HR	1/ 9	15/14	30/ 1
	TOTAL (MBTU)	122.516	249.055	726.225
MAY	PEAK (KBTU)	3553.447	699.951	976.107
	DY/HR	3/ 9	23/11	31/ 1
	TOTAL (MBTU)	10.741	253.308	702.798
JUN	PEAK (KBTU)	131.591	766.040	976.107
	DY/HR	7/ 7	29/14	30/ 1
	TOTAL (MBTU)	4.013	288.737	726.225
JUL	PEAK (KBTU)	110.834	1062.140	976.107
	DY/HR	31/24	18/15	31/ 1
	TOTAL (MBTU)	7.889	278.207	726.225
AUG	PEAK (KBTU)	122.263	876.138	976.107
	DY/HR	2/ 5	9/16	31/ 1
	TOTAL (MBTU)	18.275	252.851	702.798
SEP	PEAK (KBTU)	552.938	1027.178	976.107
	DY/HR	24/ 9	4/14	30/ 1
	TOTAL (MBTU)	103.734	243.664	726.225
OCT	PEAK (KBTU)	2593.648	680.877	976.107
	DY/HR	28/ 9	16/14	31/24
	TOTAL (MBTU)	257.704	228.755	702.798
NOV	PEAK (KBTU)	4317.907	666.702	976.107
	DY/HR	27/10	1/10	30/24
	TOTAL (MBTU)	480.503	231.737	726.225
DEC	PEAK (KBTU)	4922.032	632.789	976.107
	DY/HR	3/ 9	9/13	31/24
	ONE YEAR	3053.733	2927.614	8550.711
	USE/PEAK	5619.318	1062.140	976.107

**COMPUTER SIMULATIONS**  
**BUILDING 10730**

**RUN 4 - FORCED VENTILATION**



LDL PROCESSOR INPUT DATA

3/18/1995 11:47:19 LDL RUN 1

```

* 3 *
* 4 *
* 5 *
* 6 *      $-----$
* 7 *      $EZ - DOE LOADS INPUT$
* 8 *      $-----$
* 9 *
* 10 *      $ GENERAL PROJECT DATA
* 11 * TITLE LINE-1 * EMC ENGINEERS INC. *
* 12 * LINE-2 *EZDOE - ELITE SOFTWARE DEVELOPMENT INC*
* 13 * LINE-3 * DENVER, CO 80227 *
* 14 *
* 15 * LINE-4 *BLDG 10730 MAIN RETAIL AND CLOTHING SALE*
* 16 * LINE-5 *MODEL W SB, ECON., DDC, & FORCED VNT * ..
* 17 *
* 18 * ABORT ERRORS ..
* 19 * DIAGNOSTIC WARNINGS ..
* 20 * BUILDING-LOCATION X-REF = 0.0
* 21 * Y-REF = 0.0 ..
* 22 * RUN-PERIOD JAN 1 1994 THRU DEC 31 1994 ..
* 23 *
* 24 *
* 25 *      $ SCHEDULES
* 26 *
* 27 * FULL_OFF_D =DAY-SCHEDULE (1,24) (0.) ..
* 28 *
* 29 * PEOPLE_D =DAY-SCHEDULE (1,6) (0.)
* 30 * (7,9) (0.1,0.2,0.4)
* 31 * (10,14) (0.7)
* 32 * (15,18) (0.9)
* 33 * (19,20) (1.)
* 34 * (21,22) (0.2)
* 35 * (23,24) (0.1) ..
* 36 *
* 37 * LIGHT_ON_D =DAY-SCHEDULE (1,2) (0.2)
* 38 * (3,6) (0.1)
* 39 * (7) (0.2)
* 40 * (8,9) (0.3)
* 41 * (10,17) (0.9)
* 42 * (18,19) (0.6)
* 43 * (20) (0.5)
* 44 * (21,22) (0.4)
* 45 * (23,24) (0.3,0.2) ..
* 46 *
* 47 * FULL_ON_D =DAY-SCHEDULE (1,24) (1.) ..
* 48 *
* 49 *
* 50 * FULL_OFF_W =WEEK-SCHEDULE (ALL) FULL_OFF_D ..
* 51 *
* 52 * PEOPLE_W =WEEK-SCHEDULE (ALL) PEOPLE_D ..
* 53 *
* 54 * LIGHT_ON_W =WEEK-SCHEDULE (ALL) LIGHT_ON_D ..
* 55 *
* 56 * FULL_ON_W =WEEK-SCHEDULE (ALL) FULL_ON_D ..
* 57 *
* 58 *
* 59 * FULL_ON =SCHEDULE THRU DEC 31 FULL_ON_W ..
* 60 *
* 61 * FULL_OFF =SCHEDULE THRU DEC 31 FULL_OFF_W ..
* 62 *
* 63 * $ OCCUPANCY SCHEDULE
* 64 * PEOPLE_Y =SCHEDULE THRU DEC 31 PEOPLE_W ..
* 65 *
* 66 * $ LIGHTING SCHEDULE
* 67 * LIGHT_ON_Y =SCHEDULE THRU DEC 31 LIGHT_ON_W ..
* 68 *
* 69 *
* 70 *
* 71 *      $ CONSTRUCTION TYPES
* 72 *
* 73 *
* 74 *
* 75 * FLOORCON =CONSTRUCTION U-VALUE = 0.100 ..
* 76 * ROOF_CON =CONSTRUCTION U-VALUE = 0.050 ..
* 77 * WALL_CON =CONSTRUCTION U-VALUE = 0.200 ..
* 78 * DOOR_CON =CONSTRUCTION U-VALUE = 1.000 ..
* 79 * INWALL =CONSTRUCTION U-VALUE = 20.000 ..
* 80 *
* 81 * G_TYPE1 =GLASS-TYPE GLASS-TYPE-CODE = 1
* 82 * PANES = 1
* 83 * GLASS-CONDUCTANCE = 1.130 ..
* 84 *
* 85 *
* 86 *
* 87 *
* 88 *      $ SPACE DESCRIPTION
* 89 *
* 90 * RETAIL_SLS =SPACE AREA = 28176.0 VOLUME = 228112.0
* 91 * AZIMUTH = 240 ZONE-TYPE = CONDITIONED
* 92 * PEOPLE-SCHEDULE = PEOPLE_Y NUMBER-OF-PEOPLE = 200.0
* 93 * PEOPLE-HEAT-GAIN = 550.0
* 94 * LIGHTING-TYPE = REC-FLUOR-RV LIGHTING-W/SQFT = 1.35
* 95 * LIGHTING-SCHEDULE = LIGHT_ON_Y
* 96 * INF-METHOD = AIR-CHANGE AIR-CHANGES/HR = 0.5
* 97 * INF-SCHEDULE = FULL_ON ..
* 98 *
* 99 * U-W HEIGHT = 127.0 WIDTH = 222.0 CONS = FLOORCON
* 100 * AZIMUTH = 240 ..
* 101 *
* 102 * ROOF HEIGHT = 127.0 WIDTH = 222.0 CONS = ROOF_CON

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* 103 *          AZIMUTH = 240  TILT = 0  ..
* 104 *
* 105 *      E-W      HEIGHT = 12.0  WIDTH = 104.0  CONS = WALL_CON
* 106 *          AZIMUTH = 150  ..
* 107 *
* 108 *      DOOR     HEIGHT = 7.5  WIDTH = 3.0  CONS = DOOR_CON
* 109 *          MULTIPLIER = 2.0  ..
* 110 *
* 111 *      E-W      HEIGHT = 12.0  WIDTH = 52.0  CONS = WALL_CON
* 112 *          AZIMUTH = 60  ..
* 113 *
* 114 *      E-W      HEIGHT = 12.0  WIDTH = 127.0  CONS = WALL_CON
* 115 *          AZIMUTH = 330  ..
* 116 *
* 117 *      DOOR     HEIGHT = 7.5  WIDTH = 3.0  CONS = DOOR_CON ..
* 118 *
* 119 *      I-W      HEIGHT = 12.0  WIDTH = 1000.0  CONS = INWALL
* 120 *          AZIMUTH = 240  NEXT-TO = MALL  ..
* 121 *
* 122 *
* 123 * MPA          =SPACE  AREA = 13803.0  VOLUME = 165636.0
* 124 *          AZIMUTH = 240  ZONE-TYPE = CONDITIONED
* 125 *          PEOPLE-SCHEDULE = PEOPLE_Y  NUMBER-OF-PEOPLE = 40.0
* 126 *          PEOPLE-HEAT-GAIN = 550.0
* 127 *          LIGHTING-TYPE = REC-FLUOR-RV  LIGHTING-W/SQFT = 1.35
* 128 *          LIGHTING-SCHEDULE = LIGHT_ON_Y
* 129 *          INF-METHOD = AIR-CHANGE  AIR-CHANGES/HR = 0.5
* 130 *          INF-SCHEDULE = FULL_ON  ..
* 131 *
* 132 *      U-W      HEIGHT = 85.0  WIDTH = 163.0  CONS = FLOORCON
* 133 *          AZIMUTH = 240  ..
* 134 *
* 135 *      ROOF     HEIGHT = 85.0  WIDTH = 163.0  CONS = ROOF_CON
* 136 *          AZIMUTH = 240  TILT = 0  ..
* 137 *
* 138 *      E-W      HEIGHT = 12.0  WIDTH = 64.0  CONS = WALL_CON
* 139 *          AZIMUTH = 150  ..
* 140 *
* 141 *      DOOR     HEIGHT = 7.5  WIDTH = 3.0  CONS = DOOR_CON
* 142 *          MULTIPLIER = 2.0  ..
* 143 *
* 144 *      E-W      HEIGHT = 12.0  WIDTH = 163.0  CONS = WALL_CON
* 145 *          AZIMUTH = 240  ..
* 146 *
* 147 *      DOOR     HEIGHT = 7.5  WIDTH = 3.0  CONS = DOOR_CON ..
* 148 *
* 149 *
* 150 * ADMIN        =SPACE  AREA = 4640.0  VOLUME = 46400.0
* 151 *          AZIMUTH = 240  ZONE-TYPE = CONDITIONED
* 152 *          PEOPLE-SCHEDULE = PEOPLE_Y  NUMBER-OF-PEOPLE = 100.0
* 153 *          PEOPLE-HEAT-GAIN = 550.0
* 154 *          LIGHTING-TYPE = REC-FLUOR-RV  LIGHTING-W/SQFT = 1.35
* 155 *          LIGHTING-SCHEDULE = LIGHT_ON_Y
* 156 *          INF-METHOD = AIR-CHANGE  AIR-CHANGES/HR = 0.5
* 157 *          INF-SCHEDULE = FULL_ON  ..
* 158 *
* 159 *      U-W      HEIGHT = 64.0  WIDTH = 73.0  CONS = FLOORCON
* 160 *          AZIMUTH = 240  ..
* 161 *
* 162 *      ROOF     HEIGHT = 64.0  WIDTH = 73.0  CONS = ROOF_CON
* 163 *          AZIMUTH = 240  TILT = 0  ..
* 164 *
* 165 *      E-W      HEIGHT = 10.0  WIDTH = 64.0  CONS = WALL_CON
* 166 *          AZIMUTH = 330  ..
* 167 *
* 168 *      DOOR     HEIGHT = 7.5  WIDTH = 3.0  CONS = DOOR_CON ..
* 169 *
* 170 *      I-W      HEIGHT = 10.0  WIDTH = 10.0  CONS = INWALL
* 171 *          AZIMUTH = 240  NEXT-TO = MCSS_SALES  ..
* 172 *
* 173 *
* 174 * FAST_FOOD     =SPACE  AREA = 4860.0  VOLUME = 58320.0
* 175 *          AZIMUTH = 240  ZONE-TYPE = CONDITIONED
* 176 *          PEOPLE-SCHEDULE = PEOPLE_Y  NUMBER-OF-PEOPLE = 100.0
* 177 *          PEOPLE-HEAT-GAIN = 550.0
* 178 *          LIGHTING-TYPE = REC-FLUOR-RV  LIGHTING-W/SQFT = 1.35
* 179 *          LIGHTING-SCHEDULE = LIGHT_ON_Y
* 180 *          EQUIP-SCHEDULE = FULL_ON  EQUIPMENT-KW = 15.54
* 181 *          EQUIP-SENSIBLE = 0.0  SOURCE-SCHEDULE = FULL_ON
* 182 *          SOURCE-TYPE = GAS  SOURCE-BTU/HR = 976107.0
* 183 *          SOURCE-SENSIBLE = 0.1  INF-METHOD = AIR-CHANGE
* 184 *          AIR-CHANGES/HR = 0.5  INF-SCHEDULE = FULL_ON  ..
* 185 *
* 186 *      U-W      HEIGHT = 61.0  WIDTH = 80.0  CONS = FLOORCON
* 187 *          AZIMUTH = 240  ..
* 188 *
* 189 *      ROOF     HEIGHT = 61.0  WIDTH = 80.0  CONS = ROOF_CON
* 190 *          AZIMUTH = 240  TILT = 0  ..
* 191 *
* 192 *      E-W      HEIGHT = 10.0  WIDTH = 62.0  CONS = WALL_CON
* 193 *          AZIMUTH = 60  ..
* 194 *
* 195 *          WINDOW HEIGHT = 6.0  WIDTH = 4.0  G-T = G_TYPE1
* 196 *          MULTIPLIER = 11.0  ..
* 197 *
* 198 *      E-W      HEIGHT = 10.0  WIDTH = 29.0  CONS = WALL_CON
* 199 *          AZIMUTH = 105  ..
* 200 *
* 201 *      DOOR     HEIGHT = 7.5  WIDTH = 3.0  CONS = DOOR_CON ..
* 202 *
* 203 *      E-W      HEIGHT = 10.0  WIDTH = 45.0  CONS = WALL_CON
* 204 *          AZIMUTH = 250  ..
* 205 *
* 206 *      DOOR     HEIGHT = 7.5  WIDTH = 3.0  CONS = DOOR_CON
* 207 *          MULTIPLIER = 2.0  ..
* 208 *
* 209 *
* 210 * MALL          =SPACE  AREA = 7916.0  VOLUME = 79160.0

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* 211 *      AZIMUTH = 240  ZONE-TYPE = CONDITIONED
* 212 *      PEOPLE-SCHEDULE = PEOPLE_Y  NUMBER-OF-PEOPLE = 100.0
* 213 *      PEOPLE-HEAT-GAIN = 550.0
* 214 *      LIGHTING-TYPE = REC-FLUOR-RV  LIGHTING-W/SQFT = 1.35
* 215 *      LIGHTING-SCHEDULE = LIGHT_ON_Y
* 216 *      INF-METHOD = AIR-CHANGE  AIR-CHANGES/HR = 0.75
* 217 *      INF-SCHEDULE = FULL_ON  ..
* 218 *
* 219 *      U-W      HEIGHT = 50.0  WIDTH = 158.0  CONS = FLOORCON
* 220 *      AZIMUTH = 240  ..
* 221 *
* 222 *      ROOF      HEIGHT = 50.0  WIDTH = 158.0  CONS = ROOF_CON
* 223 *      AZIMUTH = 240  TILT = 0  ..
* 224 *
* 225 *      E-W      HEIGHT = 10.0  WIDTH = 100.0  CONS = WALL_CON
* 226 *      AZIMUTH = 60  ..
* 227 *
* 228 *      E-W      HEIGHT = 10.0  WIDTH = 90.0  CONS = WALL_CON
* 229 *      AZIMUTH = 105  ..
* 230 *
* 231 *      DOOR      HEIGHT = 7.5  WIDTH = 3.0  CONS = DOOR_CON
* 232 *      MULTIPLIER = 2.0  ..
* 233 *
* 234 *
* 235 *  BEAUTY      =SPACE  AREA = 1146.0  VOLUME = 11460.0
* 236 *      AZIMUTH = 240  ZONE-TYPE = CONDITIONED
* 237 *      PEOPLE-SCHEDULE = PEOPLE_Y  NUMBER-OF-PEOPLE = 20.0
* 238 *      PEOPLE-HEAT-GAIN = 550.0
* 239 *      LIGHTING-TYPE = REC-FLUOR-RV  LIGHTING-W/SQFT = 1.35
* 240 *      LIGHTING-SCHEDULE = LIGHT_ON_Y
* 241 *      INF-METHOD = AIR-CHANGE  AIR-CHANGES/HR = 0.5
* 242 *      INF-SCHEDULE = FULL_ON  ..
* 243 *
* 244 *      U-W      HEIGHT = 23.0  WIDTH = 50.0  CONS = FLOORCON
* 245 *      AZIMUTH = 240  ..
* 246 *
* 247 *      ROOF      HEIGHT = 23.0  WIDTH = 50.0  CONS = ROOF_CON
* 248 *      AZIMUTH = 240  TILT = 0  ..
* 249 *
* 250 *      E-W      HEIGHT = 10.0  WIDTH = 30.0  CONS = WALL_CON
* 251 *      AZIMUTH = 60  ..
* 252 *
* 253 *      E-W      HEIGHT = 10.0  WIDTH = 20.0  CONS = WALL_CON
* 254 *      AZIMUTH = 0  ..
* 255 *
* 256 *
* 257 *  BARBER      =SPACE  AREA = 595.0  VOLUME = 5950.0
* 258 *      AZIMUTH = 240  ZONE-TYPE = CONDITIONED
* 259 *      PEOPLE-SCHEDULE = PEOPLE_Y  NUMBER-OF-PEOPLE = 15.0
* 260 *      PEOPLE-HEAT-GAIN = 550.0
* 261 *      LIGHTING-TYPE = REC-FLUOR-RV  LIGHTING-W/SQFT = 1.35
* 262 *      LIGHTING-SCHEDULE = LIGHT_ON_Y
* 263 *      INF-METHOD = AIR-CHANGE  AIR-CHANGES/HR = 0.5
* 264 *      INF-SCHEDULE = FULL_ON  ..
* 265 *
* 266 *      U-W      HEIGHT = 19.0  WIDTH = 32.0  CONS = FLOORCON
* 267 *      AZIMUTH = 240  ..
* 268 *
* 269 *      ROOF      HEIGHT = 19.0  WIDTH = 32.0  CONS = ROOF_CON
* 270 *      AZIMUTH = 240  TILT = 0  ..
* 271 *
* 272 *      E-W      HEIGHT = 10.0  WIDTH = 32.0  CONS = WALL_CON
* 273 *      AZIMUTH = 105  ..
* 274 *
* 275 *      I-W      HEIGHT = 10.0  WIDTH = 45.0  CONS = INWALL
* 276 *      AZIMUTH = 150  NEXT-TO = MALL  ..
* 277 *
* 278 *
* 279 *  MCSS_SALES  =SPACE  AREA = 7125.0  VOLUME = 85500.0
* 280 *      AZIMUTH = 285  ZONE-TYPE = CONDITIONED
* 281 *      PEOPLE-SCHEDULE = PEOPLE_Y  NUMBER-OF-PEOPLE = 50.0
* 282 *      PEOPLE-HEAT-GAIN = 550.0
* 283 *      LIGHTING-TYPE = REC-FLUOR-RV  LIGHTING-W/SQFT = 1.35
* 284 *      LIGHTING-SCHEDULE = LIGHT_ON_Y
* 285 *      INF-METHOD = AIR-CHANGE  AIR-CHANGES/HR = 0.5
* 286 *      INF-SCHEDULE = FULL_ON  ..
* 287 *
* 288 *      U-W      HEIGHT = 143.0  WIDTH = 50.0  CONS = FLOORCON
* 289 *      AZIMUTH = 285  ..
* 290 *
* 291 *      ROOF      HEIGHT = 143.0  WIDTH = 50.0  CONS = ROOF_CON
* 292 *      AZIMUTH = 285  TILT = 0  ..
* 293 *
* 294 *      E-W      HEIGHT = 12.0  WIDTH = 100.0  CONS = WALL_CON
* 295 *      AZIMUTH = 195  ..
* 296 *
* 297 *      E-W      HEIGHT = 12.0  WIDTH = 25.0  CONS = WALL_CON
* 298 *      AZIMUTH = 285  ..
* 299 *
* 300 *      DOOR      HEIGHT = 7.5  WIDTH = 3.0  CONS = DOOR_CON
* 301 *      MULTIPLIER = 3.0  ..
* 302 *
* 303 *
* 304 *  MCSS_MPAQ   =SPACE  AREA = 7125.0  VOLUME = 85500.0
* 305 *      AZIMUTH = 285  ZONE-TYPE = CONDITIONED
* 306 *      PEOPLE-SCHEDULE = PEOPLE_Y  NUMBER-OF-PEOPLE = 50.0
* 307 *      PEOPLE-HEAT-GAIN = 550.0
* 308 *      LIGHTING-TYPE = REC-FLUOR-RV  LIGHTING-W/SQFT = 1.35
* 309 *      LIGHTING-SCHEDULE = LIGHT_ON_Y
* 310 *      INF-METHOD = AIR-CHANGE  AIR-CHANGES/HR = 0.5
* 311 *      INF-SCHEDULE = FULL_ON  ..
* 312 *
* 313 *      U-W      HEIGHT = 143.0  WIDTH = 50.0  CONS = FLOORCON
* 314 *      AZIMUTH = 285  ..
* 315 *
* 316 *      ROOF      HEIGHT = 143.0  WIDTH = 50.0  CONS = ROOF_CON
* 317 *      AZIMUTH = 285  TILT = 0  ..
* 318 *

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* 319 *           E-W      HEIGHT = 12.0  WIDTH = 125.0  CONS = WALL_CON
* 320 *           AZIMUTH = 285  ..
* 321 *
* 322 *           DOOR     HEIGHT = 7.5   WIDTH = 3.0   CONS = DOOR_CON
* 323 *           MULTIPLIER = 3.0  ..
* 324 *
* 325 *   IMAG_WALL  =I-W    HEIGHT = 12.0  WIDTH = 1000.0  CONS = INWALL
* 326 *           AZIMUTH = 285  NEXT-TO = MCSS_SALES  ..
* 327 *
* 328 *
* 329 *   GARDEN_SLS =SPACE  AREA = 2184.0  VOLUME = 26208.0
* 330 *           AZIMUTH = 240  ZONE-TYPE = CONDITIONED
* 331 *           PEOPLE-SCHEDULE = PEOPLE_Y  NUMBER-OF-PEOPLE = 40.0
* 332 *           PEOPLE-HEAT-GAIN = 550.0
* 333 *           LIGHTING-TYPE = REC-FLUOR-RV  LIGHTING-W/SQFT = 1.35
* 334 *           LIGHTING-SCHEDULE = LIGHT_ON_Y
* 335 *           INF-METHOD = AIR-CHANGE  AIR-CHANGES/HR = 0.5
* 336 *           INF-SCHEDULE = FULL_ON  ..
* 337 *
* 338 *           U-W      HEIGHT = 57.0  WIDTH = 39.0  CONS = FLOORCON
* 339 *           AZIMUTH = 240  ..
* 340 *
* 341 *           ROOF     HEIGHT = 57.0  WIDTH = 39.0  CONS = ROOF_CON
* 342 *           AZIMUTH = 240  TILT = 0  ..
* 343 *
* 344 *           E-W      HEIGHT = 12.0  WIDTH = 39.0  CONS = WALL_CON
* 345 *           AZIMUTH = 60  ..
* 346 *
* 347 *           E-W      HEIGHT = 12.0  WIDTH = 57.0  CONS = WALL_CON
* 348 *           AZIMUTH = 150  ..
* 349 *
* 350 *           E-W      HEIGHT = 12.0  WIDTH = 39.0  CONS = WALL_CON
* 351 *           AZIMUTH = 240  ..
* 352 *
* 353 *           DOOR     HEIGHT = 7.5   WIDTH = 3.0   CONS = DOOR_CON
* 354 *           MULTIPLIER = 2.0  ..
* 355 *
* 356 *           I-W      HEIGHT = 12.0  WIDTH = 1000.0  CONS = INWALL
* 357 *           AZIMUTH = 150  NEXT-TO = MPA  ..
* 358 *
* 359 *
* 360 *   END  ..
* 361 *   COMPUTE LOADS  ..
* 362 *
* 363 *   INPUT SYSTEMS  ..

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SDL PROCESSOR INPUT DATA

3/18/1995 11:47:19 SDL RUN 1

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* 364 *
* 365 *
* 366 *
* 367 *
* 368 *
* 369 *
* 370 *
* 371 *
* 372 * TITLE LINE-1 * EMC ENGINEERS INC. *
* 373 * LINE-2 *EZDOE - ELITE SOFTWARE DEVELOPMENT INC*
* 374 * LINE-3 * DENVER, CO 80227 *
* 375 *
* 376 * LINE-4 *BLDG 10730 MAIN RETAIL AND CLOTHING SALE*
* 377 * LINE-5 *MODEL W SB, ECON., DDC, & FORCED VNT * ..
* 378 * ABORT ERRORS ..
* 379 * DIAGNOSTIC WARNINGS ..
* 380 * SYSTEMS-REPORT SUMMARY=(SS-A,SS-C,SS-K,SS-O) ..
* 381 *
* 382 *
* 383 *
* 384 * FULL_ON_D =DAY-SCHEDULE (1,24) (1.) ..
* 385 * FULL_OFF_D =DAY-SCHEDULE (1,24) (0.) ..
* 386 * HEAT_68_D =DAY-SCHEDULE (1,24) (68.) ..
* 387 * COOL_75_D =DAY-SCHEDULE (1,5) (85.)
* 388 * (6,21) (78.)
* 389 * (22,24) (85.) ..
* 390 * FAN_ON_D =DAY-SCHEDULE (1,24) (1.) ..
* 391 * FAN_WSBA_D =DAY-SCHEDULE (1,8) (0.)
* 392 * (9,18) (1.)
* 393 * (19,24) (0.) ..
* 394 * FAN_WSB_B_D =DAY-SCHEDULE (1,9) (0.)
* 395 * (10,16) (1.)
* 396 * (17,24) (0.) ..
* 397 * FAN_WSB_C_D =DAY-SCHEDULE (1,8) (0.)
* 398 * (9,16) (1.)
* 399 * (17,24) (0.) ..
* 400 * FAN_WSB_D_D =DAY-SCHEDULE (1,8) (0.)
* 401 * (9,15) (1.)
* 402 * (16,24) (0.) ..
* 403 * FAN_WSBE_D =DAY-SCHEDULE (1,9) (0.)
* 404 * (10,14) (1.)
* 405 * (15,24) (0.) ..
* 406 * FAN_WSBF_D =DAY-SCHEDULE (1,9) (0.)
* 407 * (10,17) (1.)
* 408 * (18,24) (0.) ..
* 409 * FAN_WSBG_D =DAY-SCHEDULE (1,8) (0.)
* 410 * (9,16) (1.)
* 411 * (17,24) (0.) ..
* 412 * HT_WSBA_D =DAY-SCHEDULE (1,8) (50.)
* 413 * (9,18) (68.)
* 414 * (19,24) (50.) ..
* 415 * HT_WSB_B_D =DAY-SCHEDULE (1,9) (50.)
* 416 * (10,16) (68.)
* 417 * (17,24) (50.) ..
* 418 * HT_WSB_C_D =DAY-SCHEDULE (1,8) (50.)
* 419 * (9,16) (68.)
* 420 * (17,24) (50.) ..
* 421 * HT_WSB_D_D =DAY-SCHEDULE (1,8) (50.)
* 422 * (9,15) (68.)
* 423 * (16,24) (50.) ..
* 424 * HT_WSBE_D =DAY-SCHEDULE (1,9) (50.)
* 425 * (10,14) (68.)
* 426 * (15,24) (50.) ..
* 427 * HT_WSBF_D =DAY-SCHEDULE (1,9) (50.)
* 428 * (10,17) (68.)
* 429 * (18,24) (50.) ..
* 430 * HT_WSBG_D =DAY-SCHEDULE (1,8) (50.)
* 431 * (9,16) (68.)
* 432 * (17,24) (50.) ..
* 433 * CL_WSBA_D =DAY-SCHEDULE (1,8) (85.)
* 434 * (9,18) (78.)
* 435 * (19,24) (85.) ..
* 436 * CL_WSB_B_D =DAY-SCHEDULE (1,9) (85.)
* 437 * (10,16) (78.)
* 438 * (17,24) (85.) ..
* 439 * CL_WSB_C_D =DAY-SCHEDULE (1,8) (85.)
* 440 * (9,16) (78.)
* 441 * (17,24) (85.) ..
* 442 * CL_WSB_D_D =DAY-SCHEDULE (1,8) (85.)
* 443 * (9,15) (78.)
* 444 * (16,24) (85.) ..
* 445 * CL_WSBE_D =DAY-SCHEDULE (1,9) (85.)
* 446 * (10,14) (78.)
* 447 * (15,24) (85.) ..
* 448 * CL_WSBF_D =DAY-SCHEDULE (1,9) (85.)
* 449 * (10,17) (78.)
* 450 * (18,24) (85.) ..
* 451 * CL_WSBG_D =DAY-SCHEDULE (1,8) (85.)
* 452 * (9,16) (78.)
* 453 * (17,24) (85.) ..
* 454 * MOA.12_9D =DAY-SCHEDULE (1,9) (0.)
* 455 * (10,24) (0.12) ..
* 456 * MOA.12_10D =DAY-SCHEDULE (1,10) (0.)
* 457 * (11,24) (0.12) ..
* 458 * MOA.18_9D =DAY-SCHEDULE (1,9) (0.)
* 459 * (10,24) (0.18) ..
* 460 * MOA.18_10D =DAY-SCHEDULE (1,10) (0.)
* 461 * (11,24) (0.18) ..
* 462 * MOA.5_9D =DAY-SCHEDULE (1,9) (0.)
* 463 * (10,24) (0.5) ..

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* 464 * MOA.5_10D =DAY-SCHEDULE (1,10) (0.)
* 465 * (11,24) (0.5) ..
* 466 * MOA.1_9D =DAY-SCHEDULE (1,9) (0.)
* 467 * (10,24) (0.1) ..
* 468 * MOA.1_10D =DAY-SCHEDULE (1,10) (0.)
* 469 * (11,24) (0.1) ..
* 470 * MOA.14_9D =DAY-SCHEDULE (1,9) (0.)
* 471 * (10,24) (0.14) ..
* 472 * MOA.14_10D =DAY-SCHEDULE (1,10) (0.)
* 473 * (11,24) (0.14) ..
* 474 *
* 475 * FULL_ON_W =WEEK-SCHEDULE (ALL) FULL_ON_D ..
* 476 *
* 477 * FULL_OFF_W =WEEK-SCHEDULE (ALL) FULL_OFF_D ..
* 478 *
* 479 * HEAT_70_W =WEEK-SCHEDULE (ALL) HEAT_68_D ..
* 480 *
* 481 * COOL_75_W =WEEK-SCHEDULE (ALL) COOL_75_D ..
* 482 *
* 483 * FAN_ON_W =WEEK-SCHEDULE (ALL) FAN_ON_D ..
* 484 *
* 485 * FAN_WSB1_W =WEEK-SCHEDULE (WD) FAN_WSBA_D
* 486 * (SAT) FAN_WSBA_D
* 487 * (SUN) FAN_WSB_B_D
* 488 * (HOL) FAN_WSBA_D ..
* 489 *
* 490 * FAN_WSB2_W =WEEK-SCHEDULE (WD) FAN_WSBC_D
* 491 * (SAT) FAN_WSBD_D
* 492 * (SUN) FAN_WSBE_D
* 493 * (HOL) FAN_WSBC_D ..
* 494 *
* 495 * FAN_WSB3_W =WEEK-SCHEDULE (WD) FAN_WSBF_D
* 496 * (SAT) FAN_WSBG_D
* 497 * (SUN) FAN_WSBG_D
* 498 * (HOL) FAN_WSBF_D ..
* 499 *
* 500 * HT_WSB1_W =WEEK-SCHEDULE (WD) HT_WSBA_D
* 501 * (SAT) HT_WSBA_D
* 502 * (SUN) HT_WSB_B_D
* 503 * (HOL) HT_WSBA_D ..
* 504 *
* 505 * HT_WSB2_W =WEEK-SCHEDULE (WD) HT_WSBC_D
* 506 * (SAT) HT_WSBD_D
* 507 * (SUN) HT_WSBE_D
* 508 * (HOL) HT_WSBC_D ..
* 509 *
* 510 * HT_WSB3_W =WEEK-SCHEDULE (WD) HT_WSBF_D
* 511 * (SAT) HT_WSBG_D
* 512 * (SUN) HT_WSBG_D
* 513 * (HOL) HT_WSBF_D ..
* 514 *
* 515 * CL_WSB1_W =WEEK-SCHEDULE (WD) CL_WSBA_D
* 516 * (SAT) CL_WSBA_D
* 517 * (SUN) CL_WSB_B_D
* 518 * (HOL) CL_WSBA_D ..
* 519 *
* 520 * CL_WSB2_W =WEEK-SCHEDULE (WD) CL_WSBC_D
* 521 * (SAT) CL_WSBD_D
* 522 * (SUN) CL_WSBE_D
* 523 * (HOL) CL_WSBC_D ..
* 524 *
* 525 * CL_WSB3_W =WEEK-SCHEDULE (WD) CL_WSBE_D
* 526 * (SAT) CL_WSBF_D
* 527 * (SUN) CL_WSBF_D
* 528 * (HOL) CL_WSBE_D ..
* 529 *
* 530 * MOA.12_W =WEEK-SCHEDULE (WD) MOA.12_9D
* 531 * (SAT) MOA.12_9D
* 532 * (SUN) MOA.12_10D
* 533 * (HOL) MOA.12_9D ..
* 534 *
* 535 * MOA.14_W =WEEK-SCHEDULE (WD) MOA.14_9D
* 536 * (SAT) MOA.14_9D
* 537 * (SUN) MOA.14_10D
* 538 * (HOL) MOA.14_9D ..
* 539 *
* 540 * MOA.5_W =WEEK-SCHEDULE (WD) MOA.5_10D
* 541 * (SAT) MOA.5_9D
* 542 * (SUN) MOA.5_9D
* 543 * (HOL) MOA.5_10D ..
* 544 *
* 545 * MOA.18_W =WEEK-SCHEDULE (WD) MOA.18_9D
* 546 * (SAT) MOA.18_9D
* 547 * (SUN) MOA.18_10D
* 548 * (HOL) MOA.18_9D ..
* 549 *
* 550 * MOA.1_W =WEEK-SCHEDULE (WD) MOA.1_9D
* 551 * (SAT) MOA.1_9D
* 552 * (SUN) MOA.1_10D
* 553 * (HOL) MOA.1_9D ..
* 554 *
* 555 *
* 556 * FULL_ON =SCHEDULE THRU DEC 31 FULL_ON_W ..
* 557 *
* 558 * FULL_OFF =SCHEDULE THRU DEC 31 FULL_OFF_W ..
* 559 *
* 560 * $ HEATING SCHEDULE
* 561 * HEAT_68_SC =SCHEDULE THRU DEC 31 HEAT_70_W ..
* 562 *
* 563 * $ COOLING SCHEDULE
* 564 * COOL_75_SC =SCHEDULE THRU DEC 31 COOL_75_W ..
* 565 *
* 566 * $ FAN SCHEDULE
* 567 * FAN_ON_SCD =SCHEDULE THRU DEC 31 FAN_ON_W ..
* 568 *
* 569 * $ SCHD FOR MAIN STORE
* 570 * FAN_WSB1 =SCHEDULE THRU DEC 31 FAN_WSB1_W ..
* 571 *

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* 572 * $ SCHD FOR CLOTHING SALES
* 573 * FAN_WSB2 =SCHEDULE THRU DEC 31 FAN_WSB2_W ..
* 574 *
* 575 * $ SCHD FOR FOOD COURT
* 576 * FAN_WSB3 =SCHEDULE THRU DEC 31 FAN_WSB3_W ..
* 577 *
* 578 * $ SCHD FOR MAIN STORE
* 579 * HT68_WSB_1 =SCHEDULE THRU DEC 31 HT_WSB1_W ..
* 580 *
* 581 * $ SCHD FOR CLOTHING SALES
* 582 * HT68_WSB_2 =SCHEDULE THRU DEC 31 HT_WSB2_W ..
* 583 *
* 584 * $ SCHD FOR FOOD COURT
* 585 * HT68_WSB_3 =SCHEDULE THRU DEC 31 HT_WSB3_W ..
* 586 *
* 587 * $ SCHD FOR MAIN STORE
* 588 * CL75_WSB_1 =SCHEDULE THRU DEC 31 CL_WSB1_W ..
* 589 *
* 590 * $ SCHD FOR CLOTHING SALES
* 591 * CL75_WSB_2 =SCHEDULE THRU DEC 31 CL_WSB2_W ..
* 592 *
* 593 * $ SCHD FOR FOOD COURT
* 594 * CL75_WSB_3 =SCHEDULE THRU DEC 31 CL_WSB3_W ..
* 595 *
* 596 * $ FORCED VENTILATION
* 597 * MOA.12_FV =SCHEDULE THRU DEC 31 MOA.12_W ..
* 598 *
* 599 * $ FORCED VENTILATION
* 600 * MOA.14_FV =SCHEDULE THRU DEC 31 MOA.14_W ..
* 601 *
* 602 * $ FORCED VENTILATION
* 603 * MOA.50_FV =SCHEDULE THRU DEC 31 MOA.5_W ..
* 604 *
* 605 * $ FORCED VENTILATION
* 606 * MOA.18_FV =SCHEDULE THRU DEC 31 MOA.18_W ..
* 607 *
* 608 * $ FORCED VENTILATION
* 609 * MOA.1_FV =SCHEDULE THRU DEC 31 MOA.1_W ..
* 610 *
* 611 *
* 612 *
* 613 *
* 614 *
* 615 * RETAIL_SLS =ZONE DESIGN-HEAT-T = 70.0 DESIGN-COOL-T = 75.0
* 616 * HEAT-TEMP-SCH = HT68_WSB_1 COOL-TEMP-SCH = CL75_WSB_1
* 617 * ZONE-TYPE = CONDITIONED
* 618 * THERMOSTAT-TYPE = PROPORTIONAL THROTTLING-RANGE = 1.0
* 619 * BASEBOARD-CTRL = THERMOSTATIC ASSIGNED-CFM = 26700.
* 620 * OUTSIDE-AIR-CFM = 3290. SIZING-OPTION = FROM-LOADS
* 621 * RATED-CFM = 26700.0 MIN-CFM-RATIO = 1.0 ..
* 622 *
* 623 * MPA =ZONE DESIGN-HEAT-T = 70.0 DESIGN-COOL-T = 75.0
* 624 * HEAT-TEMP-SCH = HT68_WSB_1 COOL-TEMP-SCH = CL75_WSB_1
* 625 * ZONE-TYPE = CONDITIONED
* 626 * THERMOSTAT-TYPE = PROPORTIONAL THROTTLING-RANGE = 1.0
* 627 * BASEBOARD-CTRL = THERMOSTATIC
* 628 * BASEBOARD-RATING = -500000. ASSIGNED-CFM = 7800.
* 629 * OUTSIDE-AIR-CFM = 1388. SIZING-OPTION = FROM-LOADS
* 630 * RATED-CFM = 7800.0 MIN-CFM-RATIO = 1.0 ..
* 631 *
* 632 * ADMIN =ZONE DESIGN-HEAT-T = 70.0 DESIGN-COOL-T = 75.0
* 633 * HEAT-TEMP-SCH = HT68_WSB_1 COOL-TEMP-SCH = CL75_WSB_1
* 634 * ZONE-TYPE = CONDITIONED
* 635 * THERMOSTAT-TYPE = PROPORTIONAL THROTTLING-RANGE = 1.0
* 636 * BASEBOARD-CTRL = THERMOSTATIC ASSIGNED-CFM = 4000.
* 637 * OUTSIDE-AIR-CFM = 475. SIZING-OPTION = FROM-LOADS
* 638 * RATED-CFM = 4000.0 MIN-CFM-RATIO = 1.0 ..
* 639 *
* 640 * FAST_FOOD =ZONE DESIGN-HEAT-T = 70.0 DESIGN-COOL-T = 75.0
* 641 * HEAT-TEMP-SCH = HT68_WSB_3 COOL-TEMP-SCH = CL75_WSB_3
* 642 * ZONE-TYPE = CONDITIONED
* 643 * THERMOSTAT-TYPE = PROPORTIONAL THROTTLING-RANGE = 1.0
* 644 * BASEBOARD-CTRL = THERMOSTATIC
* 645 * BASEBOARD-RATING = -1150000. ASSIGNED-CFM = 8470.
* 646 * OUTSIDE-AIR-CFM = 4250. SIZING-OPTION = FROM-LOADS
* 647 * RATED-CFM = 8470.0 MIN-CFM-RATIO = 1.0 ..
* 648 *
* 649 * MALL =ZONE DESIGN-HEAT-T = 70.0 DESIGN-COOL-T = 75.0
* 650 * HEAT-TEMP-SCH = HT68_WSB_1 COOL-TEMP-SCH = CL75_WSB_1
* 651 * ZONE-TYPE = CONDITIONED
* 652 * THERMOSTAT-TYPE = PROPORTIONAL THROTTLING-RANGE = 1.0
* 653 * BASEBOARD-CTRL = THERMOSTATIC
* 654 * BASEBOARD-RATING = -1811500. ASSIGNED-CFM = 9650.
* 655 * OUTSIDE-AIR-CFM = 850. SIZING-OPTION = FROM-LOADS
* 656 * RATED-CFM = 9650.0 MIN-CFM-RATIO = 1.0 ..
* 657 *
* 658 * BEAUTY =ZONE DESIGN-HEAT-T = 70.0 DESIGN-COOL-T = 75.0
* 659 * HEAT-TEMP-SCH = HT68_WSB_1 COOL-TEMP-SCH = CL75_WSB_1
* 660 * ZONE-TYPE = CONDITIONED
* 661 * THERMOSTAT-TYPE = PROPORTIONAL THROTTLING-RANGE = 1.0
* 662 * BASEBOARD-CTRL = THERMOSTATIC
* 663 * BASEBOARD-RATING = -500000. ASSIGNED-CFM = 1837.
* 664 * OUTSIDE-AIR-CFM = 200. SIZING-OPTION = FROM-LOADS
* 665 * RATED-CFM = 1837.0 MIN-CFM-RATIO = 1.0 ..
* 666 *
* 667 * BARBER =ZONE DESIGN-HEAT-T = 70.0 DESIGN-COOL-T = 75.0
* 668 * HEAT-TEMP-SCH = HT68_WSB_1 COOL-TEMP-SCH = CL75_WSB_1
* 669 * ZONE-TYPE = CONDITIONED
* 670 * THERMOSTAT-TYPE = PROPORTIONAL THROTTLING-RANGE = 1.0
* 671 * BASEBOARD-CTRL = THERMOSTATIC ASSIGNED-CFM = 1000.
* 672 * OUTSIDE-AIR-CFM = 100. SIZING-OPTION = FROM-LOADS
* 673 * RATED-CFM = 1000.0 MIN-CFM-RATIO = 1.0 ..
* 674 *
* 675 * MCSS_SALES =ZONE DESIGN-HEAT-T = 70.0 DESIGN-COOL-T = 75.0
* 676 * HEAT-TEMP-SCH = HT68_WSB_2 COOL-TEMP-SCH = CL75_WSB_2
* 677 * ZONE-TYPE = CONDITIONED
* 678 * THERMOSTAT-TYPE = PROPORTIONAL THROTTLING-RANGE = 1.0
* 679 * BASEBOARD-CTRL = THERMOSTATIC

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* 680 *          BASEBOARD-RATING = -1000000. ASSIGNED-CFM = 6576.
* 681 *          OUTSIDE-AIR-CFM = 776. SIZING-OPTION = FROM-LOADS
* 682 *          RATED-CFM = 6576.0 MIN-CFM-RATIO = 1.0 ..
* 683 *
* 684 * MCSS_MPAQ =ZONE DESIGN-HEAT-T = 70.0 DESIGN-COOL-T = 75.0
* 685 *          HEAT-TEMP-SCH = HT68_WSB_2 COOL-TEMP-SCH = CL75_WSB_2
* 686 *          ZONE-TYPE = CONDITIONED
* 687 *          THERMOSTAT-TYPE = PROPORTIONAL THROTTLING-RANGE = 1.0
* 688 *          BASEBOARD-CTRL = THERMOSTATIC
* 689 *          BASEBOARD-RATING = -56000. ASSIGNED-CFM = 3850.
* 690 *          OUTSIDE-AIR-CFM = 533. SIZING-OPTION = FROM-LOADS
* 691 *          RATED-CFM = 3850.0 MIN-CFM-RATIO = 1.0 ..
* 692 *
* 693 * GARDEN_SLS =ZONE DESIGN-HEAT-T = 70.0 DESIGN-COOL-T = 75.0
* 694 *          HEAT-TEMP-SCH = HT68_WSB_1 COOL-TEMP-SCH = CL75_WSB_1
* 695 *          ZONE-TYPE = CONDITIONED
* 696 *          THERMOSTAT-TYPE = PROPORTIONAL THROTTLING-RANGE = 1.0
* 697 *          BASEBOARD-CTRL = THERMOSTATIC ASSIGNED-CFM = 1800.
* 698 *          OUTSIDE-AIR-CFM = 180. SIZING-OPTION = FROM-LOADS
* 699 *          RATED-CFM = 1800.0 MIN-CFM-RATIO = 1.0 ..
* 700 *
* 701 *
* 702 * $ SYSTEM DESCRIPTION
* 703 *
* 704 * AHU_1 =SYSTEM SYSTEM-TYPE = SZRH
* 705 *          MAX-SUPPLY-T = 135.0 MIN-SUPPLY-T = 55.0
* 706 *          HEAT-SET-T = 135.0 MIN-HUMIDITY = 30.0
* 707 *          ECONO-LIMIT-T = 65.0 ECONO-LOW-LIMIT = 55.0
* 708 *          SUPPLY-CFM = 26700. RETURN-CFM = 23410.
* 709 *          RATED-CFM = 26700. MIN-OUTSIDE-AIR = 0.12
* 710 *          MIN-AIR-SCH = MOA.12_FV MAX-OA-FRACTION = 0.88
* 711 *          FAN-SCHEDULE = FAN_WSB1 SUPPLY-STATIC = 4.0
* 712 *          SUPPLY-EFF = 0.6 MOTOR-PLACEMENT = OUTSIDE-AIRFLOW
* 713 *          NIGHT-CYCLE-CTRL = CYCLE-ON-ANY NIGHT-VENT-DT = 0.0
* 714 *          MIN-CFM-RATIO = 1.0 COOLING-CAPACITY = 870000.
* 715 *          HEATING-CAPACITY = -595000. FURNACE-AUX = 0.
* 716 *          PREHEAT-SOURCE = HOT-WATER
* 717 *          ZONE-NAMES = (RETAIL_SLS) ..
* 718 *
* 719 * AHU_2 =SYSTEM SYSTEM-TYPE = SZRH
* 720 *          MAX-SUPPLY-T = 135.0 MIN-SUPPLY-T = 55.0
* 721 *          HEAT-SET-T = 135.0 MIN-HUMIDITY = 30.0
* 722 *          ECONO-LIMIT-T = 65.0 ECONO-LOW-LIMIT = 55.0
* 723 *          SUPPLY-CFM = 7800. RETURN-CFM = 6412.
* 724 *          RATED-CFM = 7800. MIN-OUTSIDE-AIR = 0.18
* 725 *          MIN-AIR-SCH = MOA.18_FV MAX-OA-FRACTION = 0.82
* 726 *          FAN-SCHEDULE = FAN_WSB1 SUPPLY-STATIC = 3.5
* 727 *          SUPPLY-EFF = 0.6 MOTOR-PLACEMENT = OUTSIDE-AIRFLOW
* 728 *          NIGHT-CYCLE-CTRL = CYCLE-ON-ANY NIGHT-VENT-DT = 0.0
* 729 *          MIN-CFM-RATIO = 1.0 COOLING-CAPACITY = 199600.
* 730 *          HEATING-CAPACITY = -323500. FURNACE-AUX = 0.
* 731 *          PREHEAT-SOURCE = HOT-WATER
* 732 *          ZONE-NAMES = (MPA) ..
* 733 *
* 734 * AHU_3 =SYSTEM SYSTEM-TYPE = SZRH
* 735 *          MAX-SUPPLY-T = 135.0 MIN-SUPPLY-T = 55.0
* 736 *          HEAT-SET-T = 55.0 PREHEAT-T = 20.0
* 737 *          MIN-HUMIDITY = 30.0 ECONO-LIMIT-T = 65.0
* 738 *          ECONO-LOW-LIMIT = 55.0 SUPPLY-CFM = 4000.
* 739 *          RETURN-CFM = 3525. RATED-CFM = 4000.
* 740 *          MIN-OUTSIDE-AIR = 0.12 MIN-AIR-SCH = MOA.12_FV
* 741 *          MAX-OA-FRACTION = 0.88 FAN-SCHEDULE = FAN_WSB1
* 742 *          SUPPLY-STATIC = 3.75 SUPPLY-EFF = 0.6
* 743 *          MOTOR-PLACEMENT = OUTSIDE-AIRFLOW
* 744 *          NIGHT-CYCLE-CTRL = CYCLE-ON-ANY NIGHT-VENT-DT = 0.0
* 745 *          MIN-CFM-RATIO = 1.0 REHEAT-DELTA-T = 30.
* 746 *          COOLING-CAPACITY = 120500.
* 747 *          HEATING-CAPACITY = -105000. FURNACE-AUX = 0.
* 748 *          ZONE-NAMES = (ADMIN) ..
* 749 *
* 750 * AHU_5 =SYSTEM SYSTEM-TYPE = SZRH
* 751 *          MAX-SUPPLY-T = 135.0 MIN-SUPPLY-T = 55.0
* 752 *          HEAT-SET-T = 55.0 PREHEAT-T = 55.0
* 753 *          MIN-HUMIDITY = 30.0 ECONO-LIMIT-T = 65.0
* 754 *          ECONO-LOW-LIMIT = 55.0 SUPPLY-CFM = 9650.
* 755 *          RETURN-CFM = 8800. RATED-CFM = 9650.
* 756 *          MIN-OUTSIDE-AIR = 0.1 MIN-AIR-SCH = MOA.1_FV
* 757 *          MAX-OA-FRACTION = 0.9 FAN-SCHEDULE = FAN_WSB1
* 758 *          SUPPLY-STATIC = 3.75 SUPPLY-EFF = 0.6
* 759 *          MOTOR-PLACEMENT = OUTSIDE-AIRFLOW
* 760 *          NIGHT-CYCLE-CTRL = CYCLE-ON-ANY NIGHT-VENT-DT = 0.0
* 761 *          MIN-CFM-RATIO = 1.0 REHEAT-DELTA-T = 30.
* 762 *          COOLING-CAPACITY = 197580.
* 763 *          HEATING-CAPACITY = -207300. FURNACE-AUX = 0.
* 764 *          ZONE-NAMES = (MALL) ..
* 765 *
* 766 * AHU_4 =SYSTEM SYSTEM-TYPE = SZRH
* 767 *          MAX-SUPPLY-T = 135.0 MIN-SUPPLY-T = 55.0
* 768 *          HEAT-SET-T = 135.0 MIN-HUMIDITY = 30.0
* 769 *          ECONO-LIMIT-T = 65.0 ECONO-LOW-LIMIT = 55.0
* 770 *          SUPPLY-CFM = 8470. RETURN-CFM = 4220.
* 771 *          RATED-CFM = 8470. MIN-OUTSIDE-AIR = 0.5
* 772 *          MIN-AIR-SCH = MOA.50_FV MAX-OA-FRACTION = 0.91
* 773 *          FAN-SCHEDULE = FAN_WSB3 SUPPLY-STATIC = 3.5
* 774 *          SUPPLY-EFF = 0.6 MOTOR-PLACEMENT = OUTSIDE-AIRFLOW
* 775 *          NIGHT-CYCLE-CTRL = CYCLE-ON-ANY NIGHT-VENT-DT = 0.0
* 776 *          MIN-CFM-RATIO = 1.0 COOLING-CAPACITY = 283500.
* 777 *          HEATING-CAPACITY = -189400. FURNACE-AUX = 0.
* 778 *          PREHEAT-SOURCE = HOT-WATER
* 779 *          ZONE-NAMES = (FAST_FOOD) ..
* 780 *
* 781 * AHU_6 =SYSTEM SYSTEM-TYPE = SZRH
* 782 *          MAX-SUPPLY-T = 135.0 MIN-SUPPLY-T = 55.0
* 783 *          HEAT-SET-T = 135.0 MIN-HUMIDITY = 30.0
* 784 *          ECONO-LIMIT-T = 65.0 ECONO-LOW-LIMIT = 55.0
* 785 *          SUPPLY-CFM = 1837. RETURN-CFM = 1637.
* 786 *          RATED-CFM = 1837. MIN-OUTSIDE-AIR = 0.12
* 787 *          MIN-AIR-SCH = MOA.12_FV MAX-OA-FRACTION = 0.88

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* 788 *      FAN-SCHEDULE = FAN_WSB1 SUPPLY-STATIC = 2.75
* 789 *      SUPPLY-EFF = 0.6 MOTOR-PLACEMENT = OUTSIDE-AIRFLOW
* 790 *      NIGHT-CYCLE-CTRL = CYCLE-ON-ANY NIGHT-VENT-DT = 0.0
* 791 *      MIN-CFM-RATIO = 1.0 COOLING-CAPACITY = 71000.
* 792 *      HEATING-CAPACITY = -30700. FURNACE-AUX = 0.
* 793 *      PREHEAT-SOURCE = HOT-WATER
* 794 *      ZONE-NAMES = (BEAUTY) ..
* 795 *
* 796 * AHU_7      =SYSTEM  SYSTEM-TYPE = SZRH
* 797 *      MAX-SUPPLY-T = 135.0 MIN-SUPPLY-T = 55.0
* 798 *      HEAT-SET-T = 135.0 MIN-HUMIDITY = 30.0
* 799 *      ECONO-LIMIT-T = 65.0 ECONO-LOW-LIMIT = 55.0
* 800 *      SUPPLY-CFM = 1000. RETURN-CFM = 900.
* 801 *      RATED-CFM = 1000. MIN-OUTSIDE-AIR = 0.12
* 802 *      MIN-AIR-SCH = MOA.12 FV MAX-OA-FRACTION = 0.89
* 803 *      FAN-SCHEDULE = FAN_WSB1 SUPPLY-STATIC = 2.75
* 804 *      SUPPLY-EFF = 0.6 MOTOR-PLACEMENT = OUTSIDE-AIRFLOW
* 805 *      NIGHT-CYCLE-CTRL = CYCLE-ON-ANY NIGHT-VENT-DT = 0.0
* 806 *      MIN-CFM-RATIO = 1.0 COOLING-CAPACITY = 20900.
* 807 *      HEATING-CAPACITY = -22450. FURNACE-AUX = 0.
* 808 *      PREHEAT-SOURCE = HOT-WATER
* 809 *      ZONE-NAMES = (BARBER) ..
* 810 *
* 811 * AHU_8      =SYSTEM  SYSTEM-TYPE = SZRH
* 812 *      MAX-SUPPLY-T = 135.0 MIN-SUPPLY-T = 55.0
* 813 *      HEAT-SET-T = 135.0 MIN-HUMIDITY = 30.0
* 814 *      ECONO-LIMIT-T = 65.0 ECONO-LOW-LIMIT = 55.0
* 815 *      SUPPLY-CFM = 6576. RETURN-CFM = 5800.
* 816 *      RATED-CFM = 6576. MIN-OUTSIDE-AIR = 0.12
* 817 *      MIN-AIR-SCH = MOA.12 FV MAX-OA-FRACTION = 0.88
* 818 *      FAN-SCHEDULE = FAN_WSB2 SUPPLY-STATIC = 3.5
* 819 *      SUPPLY-EFF = 0.6 MOTOR-PLACEMENT = OUTSIDE-AIRFLOW
* 820 *      NIGHT-CYCLE-CTRL = CYCLE-ON-ANY NIGHT-VENT-DT = 0.0
* 821 *      MIN-CFM-RATIO = 1.0 COOLING-CAPACITY = 214000.
* 822 *      HEATING-CAPACITY = -111100. FURNACE-AUX = 0.
* 823 *      PREHEAT-SOURCE = HOT-WATER
* 824 *      ZONE-NAMES = (MCSS_SALES) ..
* 825 *
* 826 * AHU_9      =SYSTEM  SYSTEM-TYPE = SZRH
* 827 *      MAX-SUPPLY-T = 135.0 MIN-SUPPLY-T = 55.0
* 828 *      HEAT-SET-T = 135.0 MIN-HUMIDITY = 30.0
* 829 *      ECONO-LIMIT-T = 65.0 ECONO-LOW-LIMIT = 55.0
* 830 *      SUPPLY-CFM = 3850. RETURN-CFM = 3317.
* 831 *      RATED-CFM = 3850. MIN-OUTSIDE-AIR = 0.14
* 832 *      MIN-AIR-SCH = MOA.14 FV MAX-OA-FRACTION = 0.86
* 833 *      FAN-SCHEDULE = FAN_WSB2 SUPPLY-STATIC = 2.5
* 834 *      SUPPLY-EFF = 0.6 MOTOR-PLACEMENT = OUTSIDE-AIRFLOW
* 835 *      NIGHT-CYCLE-CTRL = CYCLE-ON-ANY NIGHT-VENT-DT = 0.0
* 836 *      MIN-CFM-RATIO = 1.0 COOLING-CAPACITY = 96900.
* 837 *      HEATING-CAPACITY = -163100. FURNACE-AUX = 0.
* 838 *      PREHEAT-SOURCE = HOT-WATER
* 839 *      ZONE-NAMES = (MCSS_MPAQ) ..
* 840 *
* 841 * AHU_10     =SYSTEM  SYSTEM-TYPE = SZRH
* 842 *      MAX-SUPPLY-T = 135.0 MIN-SUPPLY-T = 55.0
* 843 *      HEAT-SET-T = 135.0 MIN-HUMIDITY = 30.0
* 844 *      ECONO-LIMIT-T = 65.0 ECONO-LOW-LIMIT = 55.0
* 845 *      SUPPLY-CFM = 1800. RETURN-CFM = 1620.
* 846 *      RATED-CFM = 1800. MIN-OUTSIDE-AIR = 0.1
* 847 *      MIN-AIR-SCH = MOA.1_FV FAN-SCHEDULE = FAN_WSB1
* 848 *      SUPPLY-STATIC = 2.5 SUPPLY-EFF = 0.6
* 849 *      MOTOR-PLACEMENT = OUTSIDE-AIRFLOW
* 850 *      NIGHT-CYCLE-CTRL = CYCLE-ON-ANY NIGHT-VENT-DT = 0.0
* 851 *      MIN-CFM-RATIO = 1.0 COOLING-CAPACITY = 62700.
* 852 *      HEATING-CAPACITY = -65500. FURNACE-AUX = 0.
* 853 *      PREHEAT-SOURCE = HOT-WATER
* 854 *      ZONE-NAMES = (GARDEN_SLS) ..
* 855 *
* 856 * END ..
* 857 * COMPUTE SYSTEMS ..
* 858 *
* 859 * INPUT PLANT ..

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PDL PROCESSOR INPUT DATA

3/18/1995 11:47:19 PDL RUN 1

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* 860 *
* 861 *
* 862 *
* 863 *      $-----$
* 864 *      $ E Z - D O E   P L A N T S   I N P U T $
* 865 *      $-----$
* 866 *
* 867 *      $ GENERAL PROJECT DATA
* 868 *
* 868 * TITLE LINE-1 *      EMC      ENGINEERS      INC.      *
* 869 * LINE-2 *EZDOE - ELITE SOFTWARE DEVELOPMENT INC*
* 870 * LINE-3 *      DENVER,      CO      80227      *
* 871 *
* 872 * LINE-4 *BLDG 10730 MAIN RETAIL AND CLOTHING SALE*
* 873 * LINE-5 *MODEL W SB, ECON., DDC, & FORCED VNT * ..
* 874 *
* 875 * ABORT      ERRORS      ..
* 876 * DIAGNOSTIC  WARNINGS ..
* 877 * PLANT-REPORT SUMMARY=(PS-A,PS-B,BEPS)
* 878 * ..
* 879 *
* 880 *      $ SCHEDULES
* 881 *
* 882 * FULL_ON_D =DAY-SCHEDULE (1,24) (1.) ..
* 883 *
* 884 *
* 885 * FULL_ON_W =WEEK-SCHEDULE (ALL) FULL_ON_D ..
* 886 *
* 887 *
* 888 * FULL_ON =SCHEDULE THRU DEC 31 FULL_ON_W ..
* 889 *
* 890 *
* 891 *
* 892 *      $ EQUIPMENT DESCRIPTION
* 893 *
* 894 * HTHW_HX =PLANT-EQUIPMENT TYPE = HTANK-STORAGE
* 895 * SIZE = 2.1 ..
* 896 *
* 897 * ACC1&2 =PLANT-EQUIPMENT TYPE = OPEN-REC-CHLR
* 898 * SIZE = 1.1 INSTALLED-NUMBER = 2
* 899 * MAX-NUMBER-AVAIL = 2 ..
* 900 *
* 901 * PLANT-PARAMETERS OPEN-REC-COND-TYPE = AIR CHILL-WTR-T = 43.
* 902 * CCIRC-IMPELLER-EFF = 0.67 CCIRC-HEAD = 100.0
* 903 * HCIRC-IMPELLER-EFF = 0.73 HCIRC-HEAD = 95.0 ..
* 904 *
* 905 *
* 906 * ENERGY-RESOURCE RESOURCE = ELECTRICITY ..
* 907 * ENERGY-RESOURCE RESOURCE = STEAM ..
* 908 * ENERGY-RESOURCE RESOURCE = NATURAL-GAS ..
* 909 *
* 910 * ENERGY-STORAGE HEAT-STORE-RATE = 2.11 HEAT-SUPPLY-RATE = 2.11
* 911 * HTANK-BASE-T = 195.0 HTANK-T-RANGE = 5.0
* 912 * HEAT-STORE-SCH = FULL_ON ..
* 913 *
* 914 * HEAT-RECOVERY
* 915 * SUPPLY-1 = (HTANK-STORAGE)
* 916 * DEMAND-1 = (SPACE-HEAT,PROCESS-HEAT) ..
* 917 *
* 918 *
* 919 *
* 920 * END ..
* 921 * COMPUTE PLANT ..
* 922 * STOP ..

```

ENERGY TYPE IN SITE MBTU-	STEAM	ELECTRICITY	NATURAL-GAS
CATEGORY OF USE			
SPACE HEAT	2,887.50	0.00	0.00
SPACE COOL	0.00	222.59	0.00
HVAC AUX	0.00	801.24	0.00
DOM HOT WTR	0.00	0.00	0.00
AUX SOLAR	0.00	0.00	0.00
LIGHTS	0.00	1,539.33	0.00
VERT TRANS	0.00	0.00	0.00
MISC EQUIP	0.00	464.58	8,549.75
	-----	-----	-----
TOTAL	2,887.50	3,027.73	8,549.75

TOTAL SITE ENERGY 14465.97 MBTU 186.5 KBTU/SQFT-YR GROSS-AREA 186.5 KBTU/SQFT-YR NET-AREA  
 TOTAL SOURCE ENERGY 22455.59 MBTU 289.5 KBTU/SQFT-YR GROSS-AREA 289.5 KBTU/SQFT-YR NET-AREA

PERCENT OF HOURS ANY SYSTEM ZONE OUTSIDE OF THROTTLING RANGE = 17.3  
 PERCENT OF HOURS ANY PLANT LOAD NOT SATISFIED = 0.0

NOTE ELECTRICITY AND/OR FUEL USED TO GENERATE ELECTRICITY IS APPORTIONED BASED  
 ON THE YEARLY DEMAND. ALL OTHER ENERGY TYPES ARE APPORTIONED HOURLY.

MO	UTILITY-	STEAM	ELECTRICITY	NATURAL-GAS
	TOTAL (MBTU)	727.151	232.576	726.225
JAN	PEAK (KBTU)	5469.701	673.781	976.107
	DY/HR	23/11	4/10	31/24
	TOTAL (MBTU)	491.605	210.612	655.944
FEB	PEAK (KBTU)	5039.407	685.632	976.107
	DY/HR	5/10	21/10	28/24
	TOTAL (MBTU)	495.610	234.535	726.225
MAR	PEAK (KBTU)	5060.984	688.425	976.107
	DY/HR	27/10	18/10	31/24
	TOTAL (MBTU)	253.246	240.490	702.798
APR	PEAK (KBTU)	4129.569	712.121	976.107
	DY/HR	1/9	15/10	30/1
	TOTAL (MBTU)	108.058	261.434	726.225
MAY	PEAK (KBTU)	3742.786	721.316	976.107
	DY/HR	3/9	30/10	31/1
	TOTAL (MBTU)	4.930	264.385	702.798
JUN	PEAK (KBTU)	127.198	769.595	976.107
	DY/HR	8/19	28/17	30/1
	TOTAL (MBTU)	2.459	298.156	726.225
JUL	PEAK (KBTU)	110.716	1074.761	976.107
	DY/HR	31/24	18/15	31/1
	TOTAL (MBTU)	3.626	289.407	726.225
AUG	PEAK (KBTU)	105.109	887.336	976.107
	DY/HR	1/23	9/16	31/1
	TOTAL (MBTU)	11.870	265.010	702.798
SEP	PEAK (KBTU)	371.185	1040.514	976.107
	DY/HR	24/9	4/14	30/1
	TOTAL (MBTU)	88.049	256.141	726.225
OCT	PEAK (KBTU)	2657.888	712.800	976.107
	DY/HR	28/9	7/10	31/24
	TOTAL (MBTU)	242.991	238.595	702.798
NOV	PEAK (KBTU)	4313.079	700.717	976.107
	DY/HR	27/10	1/10	30/24
	TOTAL (MBTU)	457.897	236.426	726.225
DEC	PEAK (KBTU)	4823.496	699.141	976.107
	DY/HR	26/9	9/10	31/24
	ONE YEAR	2887.493	3027.766	8550.711
	USE/PEAK	5469.701	1074.761	976.107

**COMPUTER SIMULATIONS**

BUILDING 10745

**COMPUTER SIMULATIONS**  
**BUILDING 10745**

**BASE RUN**

# LDL PROCESSOR INPUT DATA

3/18/1995 11:52:24 LDL RUN 1

```

* 3 *
* 4 *
* 5 *      $-----$
* 6 *      $EZ-DOE LOADS INPUT$
* 7 *      $-----$
* 8 *
* 9 *      $ GENERAL PROJECT DATA
* 10 *
* 11 * TITLE LINE-1 * EMC ENGINEERS INC. *
* 12 * LINE-2 *EZDOE - ELITE SOFTWARE DEVELOPMENT INC*
* 13 * LINE-3 * DENVER, CO 80227 *
* 14 *
* 15 * LINE-4 *BUILDING 10745, CHILD CARE CENTER *
* 16 * LINE-5 *BASE MODEL *..
* 17 *
* 18 * ABORT ERRORS ..
* 19 * DIAGNOSTIC WARNINGS ..
* 20 * LOADS-REPORT SUMMARY=(LS-C,LS-D) ..
* 21 * BUILDING-LOCATION X-REF = 0.0
* 22 * Y-REF = 0.0 ..
* 23 * RUN-PERIOD JAN 1 1994 THRU DEC 31 1994 ..
* 24 *
* 25 *
* 26 *      $ SCHEDULES
* 27 *
* 28 * FULL_ON_D =DAY-SCHEDULE (1,24) (1.) ..
* 29 *
* 30 * FULL_OFF_D =DAY-SCHEDULE (1,24) (0.) ..
* 31 *
* 32 * PEOPLE_D =DAY-SCHEDULE (1,6) (0.)
* 33 *      (7) (0.1)
* 34 *      (8,10) (1.)
* 35 *      (11,12) (0.8,0.2)
* 36 *      (13,14) (1.)
* 37 *      (15) (0.3)
* 38 *      (16,18) (0.1)
* 39 *      (19,24) (0.) ..
* 40 *
* 41 * PEOPLE_SAT =DAY-SCHEDULE (1,11) (0.)
* 42 *      (12) (0.2)
* 43 *      (13,14) (1.)
* 44 *      (15) (0.3)

```

\* 45 \* (16,18) (0.1)  
 \* 46 \* (19,24) (0.) ..  
 \* 47 \*  
 \* 48 \* LIGHT\_D =DAY-SCHEDULE (1,5) (0.05)  
 \* 49 \* (6,7) (0.1)  
 \* 50 \* (8,12) (0.4,0.5,0.6,0.7,0.3)  
 \* 51 \* (13,15) (0.7,0.6,0.45)  
 \* 52 \* (16,18) (0.2)  
 \* 53 \* (19,24) (0.05) ..  
 \* 54 \*  
 \* 55 \* LIGHT\_SAT =DAY-SCHEDULE (1,11) (0.05)  
 \* 56 \* (12) (0.4)  
 \* 57 \* (13,14) (0.9)  
 \* 58 \* (15) (0.55)  
 \* 59 \* (16,19) (0.4)  
 \* 60 \* (20,24) (0.05) ..  
 \* 61 \*  
 \* 62 \*  
 \* 63 \* PEOPLE\_W =WEEK-SCHEDULE (WD) PEOPLE\_D  
 \* 64 \* (SAT) PEOPLE\_SAT  
 \* 65 \* (SUN) FULL\_OFF\_D  
 \* 66 \* (HOL) FULL\_OFF\_D ..  
 \* 67 \*  
 \* 68 \* FULL\_ON\_W =WEEK-SCHEDULE (ALL) FULL\_ON\_D ..  
 \* 69 \*  
 \* 70 \* FULL\_OFF\_W =WEEK-SCHEDULE (ALL) FULL\_OFF\_D ..  
 \* 71 \*  
 \* 72 \* LIGHT\_ON\_W =WEEK-SCHEDULE (WD) LIGHT\_D  
 \* 73 \* (SAT) LIGHT\_SAT  
 \* 74 \* (SUN) FULL\_OFF\_D  
 \* 75 \* (HOL) FULL\_OFF\_D ..  
 \* 76 \*  
 \* 77 \*  
 \* 78 \* \$ FULL ON SCHEDULE  
 \* 79 \* FULL\_ON =SCHEDULE THRU DEC 31 FULL\_ON\_W ..  
 \* 80 \*  
 \* 81 \* \$ FULL OFF SCHEDULE  
 \* 82 \* FULL\_OFF =SCHEDULE THRU DEC 31 FULL\_OFF\_W ..  
 \* 83 \*  
 \* 84 \* \$ OCCUPANCY SCHEDULE  
 \* 85 \* PEOPLE\_SCD =SCHEDULE THRU DEC 31 PEOPLE\_W ..  
 \* 86 \*  
 \* 87 \* \$ LIGHTING SCHEDULE  
 \* 88 \* LIGHT\_SCHD =SCHEDULE THRU DEC 31 LIGHT\_ON\_W ..  
 \* 89 \*  
 \* 90 \*  
 \* 91 \*  
 \* 92 \* \$ CONSTRUCTION TYPES  
 \* 93 \*



```

* 94 *
* 95 *
* 96 * FLOORCON =CONSTRUCTION  U-VALUE = 0.100 ..
* 97 * ROOF_CON =CONSTRUCTION  U-VALUE = 0.050 ..
* 98 * WALL_CON =CONSTRUCTION  U-VALUE = 0.200 ..
* 99 * DOOR_CON =CONSTRUCTION  U-VALUE = 1.000 ..
* 100 *
* 101 * G_TYPE1 =GLASS-TYPE  GLASS-TYPE-CODE = 1
* 102 *          PANES = 1
* 103 *          GLASS-CONDUCTANCE = 1.130 ..
* 104 *
* 105 *
* 106 *
* 107 *
* 108 *          $ SPACE DESCRIPTION
* 109 *
* 110 * WHOLE_BLDG =SPACE  AREA = 13500.0  VOLUME = 108000.0
* 111 *          AZIMUTH = 45  ZONE-TYPE = CONDITIONED
* 112 *          PEOPLE-SCHEDULE = PEOPLE_SCD  NUMBER-OF-PEOPLE = 50.0
* 113 *          PEOPLE-HEAT-GAIN = 450.0  LIGHTING-TYPE = INCAND
* 114 *          LIGHTING-KW = 54.4  LIGHTING-SCHEDULE = LIGHT_SCHD
* 115 *          SOURCE-SCHEDULE = FULL_ON  SOURCE-TYPE = HOT-WATER
* 116 *          SOURCE-BTU/HR = 41210.0  SOURCE-SENSIBLE = 0.0
* 117 *          INF-METHOD = AIR-CHANGE  AIR-CHANGES/HR = 2.0
* 118 *          INF-SCHEDULE = FULL_ON ..
* 119 *
* 120 *          U-W  HEIGHT = 112.0  WIDTH = 120.5  CONS = FLOORCON
* 121 *          AZIMUTH = 45 ..
* 122 *
* 123 *          ROOF  HEIGHT = 112.0  WIDTH = 120.5  CONS = ROOF_CON
* 124 *          AZIMUTH = 45  TILT = 0 ..
* 125 *
* 126 *          WINDOW HEIGHT = 4.0  WIDTH = 4.0  G-T = G_TYPE1
* 127 *          MULTIPLIER = 21.0 ..
* 128 *
* 129 *          DOOR  HEIGHT = 7.5  WIDTH = 3.0  CONS = DOOR_CON
* 130 *          MULTIPLIER = 6.0 ..
* 131 *
* 132 *          E-W  HEIGHT = 8.0  WIDTH = 169.0  CONS = WALL_CON
* 133 *          AZIMUTH = 45 ..
* 134 *
* 135 *          WINDOW HEIGHT = 4.0  WIDTH = 4.0  G-T = G_TYPE1
* 136 *          MULTIPLIER = 11.0 ..
* 137 *
* 138 *          DOOR  HEIGHT = 7.5  WIDTH = 3.0  CONS = DOOR_CON
* 139 *          MULTIPLIER = 5.0 ..
* 140 *
* 141 *          E-W  HEIGHT = 8.0  WIDTH = 197.0  CONS = WALL_CON
* 142 *          AZIMUTH = 135 ..

```

```

* 143 *
* 144 *      WINDOW HEIGHT = 4.0 WIDTH = 4.0 G-T = G_TYPE1
* 145 *      MULTIPLIER = 12.0 ..
* 146 *
* 147 *      DOOR HEIGHT = 7.5 WIDTH = 3.0 CONS = DOOR_CON
* 148 *      MULTIPLIER = 6.0 ..
* 149 *
* 150 *      E-W HEIGHT = 8.0 WIDTH = 179.0 CONS = WALL_CON
* 151 *      AZIMUTH = 225 ..
* 152 *
* 153 *      E-W HEIGHT = 8.0 WIDTH = 188.0 CONS = WALL_CON
* 154 *      AZIMUTH = 315 ..
* 155 *
* 156 *
* 157 * END ..
* 158 * COMPUTE LOADS ..
* 159 *
* 160 * INPUT SYSTEMS ..

```

# SDL PROCESSOR INPUT DATA

3/18/1995 11:52:24 SDL RUN 1

```

* 161 *
* 162 *
* 163 *      $-----$
* 164 *      $EZ-DOE SYSTEMS INPUT$
* 165 *      $-----$
* 166 *
* 167 *      $ GENERAL PROJECT DATA
* 168 *
* 169 * TITLE LINE-1 * EMC ENGINEERS INC. *
* 170 * LINE-2 *EZDOE - ELITE SOFTWARE DEVELOPMENT INC*
* 171 * LINE-3 * DENVER, CO 80227 *
* 172 *
* 173 * LINE-4 *BUILDING 10745, CHILD CARE CENTER *
* 174 * LINE-5 *BASE MODEL * ..
* 175 * ABORT ERRORS ..
* 176 * DIAGNOSTIC WARNINGS ..
* 177 * SYSTEMS-REPORT SUMMARY=(SS-A,SS-C,SS-K) ..
* 178 *
* 179 *      $ SCHEDULES
* 180 *
* 181 * FULL_ON_D =DAY-SCHEDULE (1,24) (1.) ..
* 182 * FULL_OFF_D =DAY-SCHEDULE (1,24) (1.) ..
* 183 * HEAT_68_D =DAY-SCHEDULE (1,24) (74.) ..

```

```

* 184 *
* 185 * FULL_ON_W =WEEK-SCHEDULE (ALL) FULL_ON_D ..
* 186 *
* 187 * FULL_OFF_W =WEEK-SCHEDULE (ALL) FULL_OFF_D ..
* 188 *
* 189 * HEAT_68_W =WEEK-SCHEDULE (ALL) HEAT_68_D ..
* 190 *
* 191 *
* 192 * $ FULL_ON SCHEDULE
* 193 * FULL_ON =SCHEDULE THRU DEC 31 FULL_ON_W ..
* 194 *
* 195 * $ FULL OFF SCHEDULE
* 196 * FULL_OFF =SCHEDULE THRU DEC 31 FULL_OFF_W ..
* 197 *
* 198 * $ HEATING SCHEDULE
* 199 * HEAT_68 =SCHEDULE THRU DEC 31 HEAT_68_W ..
* 200 *
* 201 *
* 202 *
* 203 *      $ ZONE DESCRIPTION
* 204 *
* 205 * WHOLE_BLDG =ZONE  DESIGN-HEAT-T = 68.0 DESIGN-COOL-T = 80.0
* 206 *      HEAT-TEMP-SCH = HEAT_68 ZONE-TYPE = CONDITIONED
* 207 *      THERMOSTAT-TYPE = PROPORTIONAL
* 208 *      BASEBOARD-CTRL = THERMOSTATIC
* 209 *      BASEBOARD-RATING = -878500. ASSIGNED-CFM = 10563.
* 210 *      OUTSIDE-AIR-CFM = 4404. SIZING-OPTION = FROM-LOADS
* 211 *      MIN-CFM-RATIO = 1.0 EXHAUST-CFM = 4404.0
* 212 *      HEATING-CAPACITY = -477000.0 ..
* 213 *
* 214 *
* 215 *      $ SYSTEM DESCRIPTION
* 216 *
* 217 * HV_UNITS =SYSTEM  SYSTEM-TYPE = HVSYS
* 218 *      MAX-SUPPLY-T = 135.0 MIN-HUMIDITY = 30.0
* 219 *      ECONO-LIMIT-T = 65.0 ECONO-LOW-LIMIT = 55.0
* 220 *      HEAT-CONTROL = COLDEST SUPPLY-CFM = 10563.
* 221 *      RETURN-CFM = 6159. RATED-CFM = 10563.
* 222 *      MIN-OUTSIDE-AIR = 0.42 SUPPLY-DELTA-T = 2.4
* 223 *      SUPPLY-KW = 0.00046
* 224 *      MOTOR-PLACEMENT = OUTSIDE-AIRFLOW
* 225 *      NIGHT-CYCLE-CTRL = STAY-OFF NIGHT-VENT-DT = 0.0
* 226 *      HEATING-CAPACITY = -477000. FURNACE-AUX = 0.
* 227 *      ZONE-NAMES = (WHOLE_BLDG) ..
* 228 *
* 229 * END ..
* 230 * COMPUTE SYSTEMS ..
* 231 *
* 232 * INPUT PLANT ..

```

PDL PROCESSOR INPUT DATA

3/18/1995 11:52:24 PDL RUN 1

```
* 233 *
* 234 *
* 235 *      $-----$
* 236 *      $EZ-DOE PLANTS INPUT$
* 237 *      $-----$
* 238 *
* 239 *      $ GENERAL PROJECT DATA
* 240 *
* 241 * TITLE LINE-1 * EMC ENGINEERS INC. *
* 242 * LINE-2 *EZDOE - ELITE SOFTWARE DEVELOPMENT INC*
* 243 * LINE-3 * DENVER, CO 80227 *
* 244 *
* 245 * LINE-4 *BUILDING 10745, CHILD CARE CENTER *
* 246 * LINE-5 *BASE MODEL *..
* 247 *
* 248 * ABORT ERRORS ..
* 249 * DIAGNOSTIC WARNINGS ..
* 250 * PLANT-REPORT SUMMARY=(PS-A,PS-B,BEPS)
* 251 * ..
* 252 *
* 253 *      $ SCHEDULES
* 254 *
* 255 * FULL_ON_D =DAY-SCHEDULE (1,24) (1.) ..
* 256 *
* 257 *
* 258 * FULL_ON_W =WEEK-SCHEDULE (ALL) FULL_ON_D ..
* 259 *
* 260 *
* 261 * $ FULL ON SCHEDULE
* 262 * FULL_ON =SCHEDULE THRU DEC 31 FULL_ON_W ..
* 263 *
* 264 *
* 265 *
* 266 *      $ EQUIPMENT DESCRIPTION
* 267 *
* 268 * HXS =PLANT-EQUIPMENT TYPE = HTANK-STORAGE
* 269 *      SIZE = 1.1 ..
* 270 *
* 271 *
* 272 * ENERGY-RESOURCE RESOURCE = ELECTRICITY ..
* 273 * ENERGY-RESOURCE RESOURCE = STEAM ..
```

\* 274 \*  
\* 275 \* ENERGY-STORAGE HEAT-STORE-RATE = 2.65 HEAT-SUPPLY-RATE = 2.65  
\* 276 \* HTANK-BASE-T = 195.0 HTANK-T-RANGE = 50.0  
\* 277 \* HEAT-STORE-SCH = FULL\_ON ..  
\* 278 \*  
\* 279 \* HEAT-RECOVERY  
\* 280 \* SUPPLY-1 = (HTANK-STORAGE)  
\* 281 \* DEMAND-1 = (SPACE-HEAT,PROCESS-HEAT) ..  
\* 282 \*  
\* 283 \*  
\* 284 \*  
\* 285 \* END ..  
\* 286 \* COMPUTE PLANT ..  
\* 287 \* STOP ..

ENERGY TYPE IN SITE MBTU-	STEAM	ELECTRICITY	RECOVERED
CATEGORY OF USE			
SPACE HEAT	4632.17	0.00	0.00
SPACE COOL	0.00	0.00	0.00
HVAC AUX	0.00	1030.36	0.00
DOM HOT WTR	0.00	0.00	0.00
AUX SOLAR	0.00	0.00	0.00
LIGHTS	0.00	444.19	0.00
VERT TRANS	0.00	0.00	0.00
MISC EQUIP	0.00	385.70	0.00
	-----	-----	-----
TOTAL	4632.17	1860.25	0.00

TOTAL SITE ENERGY 6492.33 MBTU 128.3 KBTU/SQFT-YR GROSS-AREA 128.3 KBTU/SQFT-YR NET-AREA  
 TOTAL SOURCE ENERGY 10218.21 MBTU 202.0 KBTU/SQFT-YR GROSS-AREA 202.0 KBTU/SQFT-YR NET-AREA

PERCENT OF HOURS ANY SYSTEM ZONE OUTSIDE OF THROTTLING RANGE = 0.1

PERCENT OF HOURS ANY PLANT LOAD NOT SATISFIED = 0.0

NOTE ELECTRICITY AND/OR FUEL USED TO GENERATE ELECTRICITY IS APPORTIONED BASED  
 ON THE YEARLY DEMAND. ALL OTHER ENERGY TYPES ARE APPORTIONED HOURLY.

ENERGY TYPE IN SITE MBTU-	STEAM	ELECTRICITY	RECOVERED
CATEGORY OF USE			
SPACE HEAT	3177.34	0.00	0.00
SPACE COOL	0.00	0.00	0.00
HVAC AUX	0.00	193.33	0.00
DOM HOT WTR	361.03	0.00	0.00
AUX SOLAR	0.00	0.00	0.00
LIGHTS	0.00	312.70	0.00
VERT TRANS	0.00	0.00	0.00
MISC EQUIP	0.00	0.00	0.00
	-----	-----	-----
TOTAL	3538.37	506.02	0.00

TOTAL SITE ENERGY 4044.33 MBTU 299.6 KBTU/SQFT-YR GROSS-AREA 299.6 KBTU/SQFT-YR NET-ARE  
 TOTAL SOURCE ENERGY 7416.74 MBTU 549.4 KBTU/SQFT-YR GROSS-AREA 549.4 KBTU/SQFT-YR NET-

PERCENT OF HOURS ANY SYSTEM ZONE OUTSIDE OF THROTTLING RANGE = 0.0  
 PERCENT OF HOURS ANY PLANT LOAD NOT SATISFIED = 0.0

NOTE ELECTRICITY AND/OR FUEL USED TO GENERATE ELECTRICITY IS APPORTIONED BASED  
 ON THE YEARLY DEMAND. ALL OTHER ENERGY TYPES ARE APPORTIONED HOURLY.

MO	UTILITY- STEAM	ELECTRICITY
JAN	TOTAL(MBTU)	683.086
	PEAK(KBTU)	1673.538
	DY/HR	5/ 2
FEB	TOTAL(MBTU)	485.256
	PEAK(KBTU)	1197.554
	DY/HR	5/10
MAR	TOTAL(MBTU)	491.698
	PEAK(KBTU)	1145.215
	DY/HR	26/10
APR	TOTAL(MBTU)	291.173
	PEAK(KBTU)	825.233
	DY/HR	1/ 5
MAY	TOTAL(MBTU)	191.926
	PEAK(KBTU)	761.663
	DY/HR	3/ 5
JUN	TOTAL(MBTU)	76.052
	PEAK(KBTU)	351.654
	DY/HR	7/ 4
JUL	TOTAL(MBTU)	59.332
	PEAK(KBTU)	322.088
	DY/HR	25/ 5
AUG	TOTAL(MBTU)	69.593
	PEAK(KBTU)	364.584
	DY/HR	6/24
SEP	TOTAL(MBTU)	120.946
	PEAK(KBTU)	481.496
	DY/HR	23/ 6
OCT	TOTAL(MBTU)	226.256
	PEAK(KBTU)	800.155
	DY/HR	25/ 5
NOV	TOTAL(MBTU)	342.578
	PEAK(KBTU)	920.908



	DY/HR	26/22	26/14
DEC	TOTAL(MBTU)	500.437	43.433
	PEAK(KBTU)	1209.294	189.704
	DY/HR	3/ 4	31/14
	ONE YEAR	3538.333	506.001
	USE/PEAK	1673.538	189.704

**COMPUTER SIMULATIONS**  
**BUILDING 10745**

**RUN 1 - SCHEDULE START/STOP AND NIGHT SETBACK**

LDL PROCESSOR INPUT DATA

3/27/1995 13: 7:48 LDL RUN 1

```

* 3 *
* 4 *
* 5 *
* 6 *          $-----$
* 7 *          $EZ - DOE LOADS INPUT $
* 8 *          $-----$
* 9 *
* 10 *          $ GENERAL PROJECT DATA
* 11 *
* 12 * TITLE LINE-1 * EMC ENGINEERS INC. *
* 13 * LINE-2 *EZDOE - ELITE SOFTWARE DEVELOPMENT INC*
* 14 * LINE-3 * DENVER, CO 80227 *
* 15 *
* 16 * LINE-4 *BUILDING 10745, CHILD CARE CENTER *
* 17 * LINE-5 *MODEL WITH SET BACK * ..
* 18 *
* 19 * ABORT ERRORS ..
* 20 * DIAGNOSTIC WARNINGS ..
* 21 * LOADS-REPORT SUMMARY=(LS-C,LS-D) ..
* 22 * BUILDING-LOCATION X-REF = 0.0
* 23 * Y-REF = 0.0
* 24 * RUN-PERIOD JAN 1 1994 THRU DEC 31 1994 ..
* 25 *
* 26 *          $ SCHEDULES
* 27 *
* 28 * PEOPLE_D =DAY-SCHEDULE (1,6) (0.)
* 29 * (7) (0.1)
* 30 * (8,10) (1.)
* 31 * (11,12) (0.8,0.2)
* 32 * (13,14) (1.)
* 33 * (15) (0.3)
* 34 * (16,18) (0.1)
* 35 * (19,24) (0.) ..
* 36 *
* 37 * PEOPLE_SAT =DAY-SCHEDULE (1,11) (0.)
* 38 * (12) (0.2)
* 39 * (13,14) (1.)
* 40 * (15) (0.3)
* 41 * (16,18) (0.1)
* 42 * (19,24) (0.) ..
* 43 *
* 44 * LIGHT_D =DAY-SCHEDULE (1,5) (0.05)
* 45 * (6,7) (0.1)
* 46 * (8,12) (0.4,0.5,0.6,0.7,0.3)
* 47 * (13,15) (0.7,0.6,0.45)
* 48 * (16,18) (0.2)
* 49 * (19,24) (0.05) ..
* 50 *
* 51 * LIGHT_SAT =DAY-SCHEDULE (1,11) (0.05)
* 52 * (12) (0.4)
* 53 * (13,14) (0.9)
* 54 * (15) (0.55)
* 55 * (16,19) (0.4)
* 56 * (20,24) (0.05) ..
* 57 *
* 58 * FULL_ON_D =DAY-SCHEDULE (1,24) (1.) ..
* 59 *
* 60 * FULL_OFF_D =DAY-SCHEDULE (1,24) (0.) ..
* 61 *
* 62 *
* 63 * PEOPLE_W =WEEK-SCHEDULE (WD) PEOPLE_D
* 64 * (SAT) PEOPLE_SAT
* 65 * (SUN) FULL_OFF_D
* 66 * (HOL) FULL_OFF_D ..
* 67 *
* 68 * FULL_ON_W =WEEK-SCHEDULE (ALL) FULL_ON_D ..
* 69 *
* 70 * FULL_OFF_W =WEEK-SCHEDULE (ALL) FULL_OFF_D ..
* 71 *
* 72 * LIGHT_ON_W =WEEK-SCHEDULE (WD) LIGHT_D
* 73 * (SAT) LIGHT_SAT
* 74 * (SUN) FULL_OFF_D
* 75 * (HOL) FULL_OFF_D ..
* 76 *
* 77 *
* 78 * $ FULL ON SCHEDULE
* 79 * FULL_ON =SCHEDULE THRU DEC 31 FULL_ON_W ..
* 80 *
* 81 * $ FULL OFF SCHEDULE
* 82 * FULL_OFF =SCHEDULE THRU DEC 31 FULL_OFF_W ..
* 83 *
* 84 * $ OCCUPANCY SCHEDULE
* 85 * PEOPLE_SCD =SCHEDULE THRU DEC 31 PEOPLE_W ..
* 86 *
* 87 * $ LIGHTING SCHEDULE
* 88 * LIGHT_SCHD =SCHEDULE THRU DEC 31 LIGHT_ON_W ..
* 89 *
* 90 *
* 91 *
* 92 *          $ CONSTRUCTION TYPES
* 93 *
* 94 *
* 95 *
* 96 * FLOORCON =CONSTRUCTION U-VALUE = 0.100 ..
* 97 * ROOF_CON =CONSTRUCTION U-VALUE = 0.050 ..
* 98 * WALL_CON =CONSTRUCTION U-VALUE = 0.200 ..
* 99 * DOOR_CON =CONSTRUCTION U-VALUE = 1.000 ..
* 100 *
* 101 * G_TYPE1 =GLASS-TYPE GLASS-TYPE-CODE = 1
* 102 * PANES = 1

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* 103 *
* 104 *
* 105 *
* 106 *
* 107 *
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* 112 *
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* 154 *
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* 157 *
* 158 *
* 159 *
* 160 *

GLASS-CONDUCTANCE = 1.130 ..

$ SPACE DESCRIPTION

WHOLE_BLDG =SPACE AREA = 13500.0 VOLUME = 108000.0
AZIMUTH = 45 ZONE-TYPE = CONDITIONED
PEOPLE-SCHEDULE = PEOPLE_SCD NUMBER-OF-PEOPLE = 50.0
PEOPLE-HEAT-GAIN = 450.0 LIGHTING-TYPE = INCAND
LIGHTING-KW = 54.4 LIGHTING-SCHEDULE = LIGHT_SCHD
SOURCE-SCHEDULE = FULL_ON SOURCE-TYPE = HOT-WATER
SOURCE-BTU/HR = 41210.0 SOURCE-SENSIBLE = 0.0
INF-METHOD = AIR-CHANGE AIR-CHANGES/HR = 2.0
INF-SCHEDULE = FULL_ON ..

U-W HEIGHT = 112.0 WIDTH = 120.5 CONS = FLOORCON
AZIMUTH = 45 ..

ROOF HEIGHT = 112.0 WIDTH = 120.5 CONS = ROOF_CON
AZIMUTH = 45 TILT = 0 ..

WINDOW HEIGHT = 4.0 WIDTH = 4.0 G-T = G_TYPE1
MULTIPLIER = 21.0 ..

DOOR HEIGHT = 7.5 WIDTH = 3.0 CONS = DOOR_CON
MULTIPLIER = 6.0 ..

E-W HEIGHT = 8.0 WIDTH = 169.0 CONS = WALL_CON
AZIMUTH = 45 ..

WINDOW HEIGHT = 4.0 WIDTH = 4.0 G-T = G_TYPE1
MULTIPLIER = 11.0 ..

DOOR HEIGHT = 7.5 WIDTH = 3.0 CONS = DOOR_CON
MULTIPLIER = 5.0 ..

E-W HEIGHT = 8.0 WIDTH = 197.0 CONS = WALL_CON
AZIMUTH = 135 ..

WINDOW HEIGHT = 4.0 WIDTH = 4.0 G-T = G_TYPE1
MULTIPLIER = 12.0 ..

DOOR HEIGHT = 7.5 WIDTH = 3.0 CONS = DOOR_CON
MULTIPLIER = 6.0 ..

E-W HEIGHT = 8.0 WIDTH = 179.0 CONS = WALL_CON
AZIMUTH = 225 ..

E-W HEIGHT = 8.0 WIDTH = 188.0 CONS = WALL_CON
AZIMUTH = 315 ..

END ..
COMPUTE LOADS ..
INPUT SYSTEMS ..

```

SDL PROCESSOR INPUT DATA

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```

* 161 *
* 162 *
* 163 *      $-----$
* 164 *      $ E Z - D O E   S Y S T E M S   I N P U T $
* 165 *      $-----$
* 166 *
* 167 *      $ GENERAL PROJECT DATA
* 168 *
* 169 * TITLE LINE-1 *      EMC      ENGINEERS      INC.      *
* 170 * LINE-2 *BZDOE - ELITE SOFTWARE DEVELOPMENT INC*
* 171 * LINE-3 *      DENVER,      CO      80227      *
* 172 *
* 173 * LINE-4 *BUILDING 10745, CHILD CARE CENTER      *
* 174 * LINE-5 *MODEL WITH SET BACK      * ..
* 175 * ABORT      ERRORS      ..
* 176 * DIAGNOSTIC      WARNINGS      ..
* 177 * SYSTEMS-REPORT      SUMMARY=(SS-A,SS-B,SS-C)      ..
* 178 *
* 179 *      $ SCHEDULES
* 180 *
* 181 * FULL_ON_D =DAY-SCHEDULE (1,24) (1.) ..
* 182 * FULL_OFF_D =DAY-SCHEDULE (1,24) (1.) ..
* 183 * HEAT_68_D =DAY-SCHEDULE (1,24) (68.) ..
* 184 * FAN_WSB1_D =DAY-SCHEDULE (1,4) (0.)
* 185 * (5,17) (1.)
* 186 * (18,24) (0.) ..
* 187 * HT68_WSB_D =DAY-SCHEDULE (1,4) (50.)
* 188 * (5,17) (74.)
* 189 * (18,24) (50.) ..
* 190 * HEAT50_D =DAY-SCHEDULE (1,24) (50.) ..
* 191 * FAN_WSB2_D =DAY-SCHEDULE (1,10) (0.)
* 192 * (11,17) (1.)
* 193 * (18,24) (0.) ..
* 194 * HT68_WSB2D =DAY-SCHEDULE (1,10) (50.)
* 195 * (11,17) (74.)
* 196 * (18,24) (50.) ..
* 197 *
* 198 * FULL_ON_W =WEEK-SCHEDULE (ALL) FULL_ON_D ..
* 199 *
* 200 * FULL_OFF_W =WEEK-SCHEDULE (ALL) FULL_OFF_D ..
* 201 *
* 202 * HEAT_68_W =WEEK-SCHEDULE (ALL) HEAT_68_D ..
* 203 *
* 204 * FAN_WSB_W =WEEK-SCHEDULE (WD) FAN_WSB1_D
* 205 * (SAT) FAN_WSB2_D
* 206 * (SUN) FULL_OFF_D
* 207 * (HOL) FAN_WSB1_D ..
* 208 *
* 209 * HT68_WSB_W =WEEK-SCHEDULE (WD) HT68_WSB_D
* 210 * (SAT) HT68_WSB2D
* 211 * (SUN) HEAT50_D
* 212 * (HOL) HT68_WSB_D ..
* 213 *
* 214 *
* 215 * $ FULL ON SCHEDULE
* 216 * FULL_ON =SCHEDULE THRU DEC 31 FULL_ON_W ..
* 217 *
* 218 * $ FULL OFF SCHEDULE
* 219 * FULL_OFF =SCHEDULE THRU DEC 31 FULL_OFF_W ..
* 220 *
* 221 * $ HEATING SCHEDULE
* 222 * HEAT_68 =SCHEDULE THRU DEC 31 HEAT_68_W ..
* 223 *
* 224 * $ FAN SCHED WITH SET BACK
* 225 * FAN_W_SB =SCHEDULE THRU DEC 31 FAN_WSB_W ..
* 226 *
* 227 * $ HEAT SCHED W SET BACK
* 228 * HT_68_W_SB =SCHEDULE THRU DEC 31 HT68_WSB_W ..
* 229 *
* 230 *
* 231 *
* 232 *      $ ZONE DESCRIPTION
* 233 *
* 234 * WHOLE_BLDG =ZONE      DESIGN-HEAT-T = 68.0      DESIGN-COOL-T = 80.0
* 235 * HEAT-TEMP-SCH = HT_68_W_SB      ZONE-TYPE = CONDITIONED
* 236 * THERMOSTAT-TYPE = PROPORTIONAL
* 237 * BASEBOARD-CTRL = THERMOSTATIC
* 238 * BASEBOARD-RATING = -878500.      ASSIGNED-CFM = 10563.
* 239 * OUTSIDE-AIR-CFM = 4404.      SIZING-OPTION = FROM-LOADS
* 240 * MIN-CFM-RATIO = 1.0      EXHAUST-CFM = 4404.0
* 241 * HEATING-CAPACITY = -477000.0      ..
* 242 *
* 243 *
* 244 *      $ SYSTEM DESCRIPTION
* 245 *
* 246 * HV_UNITS =SYSTEM      SYSTEM-TYPE = HVSYS
* 247 * MAX-SUPPLY-T = 135.0      MIN-HUMIDITY = 30.0
* 248 * ECONO-LIMIT-T = 65.0      ECONO-LOW-LIMIT = 55.0
* 249 * HEAT-CONTROL = COLDEST      SUPPLY-CFM = 10563.
* 250 * RETURN-CFM = 6159.      RATED-CFM = 10563.
* 251 * MIN-OUTSIDE-AIR = 0.42      FAN-SCHEDULE = FAN_W_SB
* 252 * SUPPLY-DELTA-T = 2.4      SUPPLY-KW = 0.00046
* 253 * MOTOR-PLACEMENT = OUTSIDE-AIRFLOW
* 254 * NIGHT-CYCLE-CTRL = CYCLE-ON-ANY      NIGHT-VENT-DT = 0.0
* 255 * HEATING-CAPACITY = -477000.      FURNACE-AUX = 0.
* 256 * ZONE-NAMES = (WHOLE_BLDG)      ..
* 257 *
* 258 * END      ..
* 259 * COMPUTE SYSTEMS      ..
* 260 *

```

\* 261 \* INPUT PLANT ..

PDL PROCESSOR INPUT DATA

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```

* 262 *
* 263 *
* 264 *      $-----$
* 265 *      $EZ - DOE PLANTS INPUT$
* 266 *      $-----$
* 267 *
* 268 *      $ GENERAL PROJECT DATA
* 269 *
* 270 * TITLE LINE-1 *      EMC      ENGINEERS      INC.      *
* 271 *      LINE-2 *EZDOE - ELITE SOFTWARE DEVELOPMENT INC*
* 272 *      LINE-3 *      DENVER,      CO      80227      *
* 273 *
* 274 *      LINE-4 *BUILDING 10745, CHILD CARE CENTER      *
* 275 *      LINE-5 *MODEL WITH SET BACK      * ..
* 276 *
* 277 * ABORT      ERRORS ..
* 278 * DIAGNOSTIC      WARNINGS ..
* 279 * PLANT-REPORT      SUMMARY=(PS-A,PS-B,BEPS)
* 280 * ..
* 281 *
* 282 *      $ SCHEDULES
* 283 *
* 284 * FULL_ON_D =DAY-SCHEDULE (1,24) (1.) ..
* 285 *
* 286 * FULL_ON_W =WEEK-SCHEDULE (ALL) FULL_ON_D ..
* 287 *
* 288 *
* 289 *
* 290 * $ FULL ON SCHEDULE
* 291 * FULL_ON =SCHEDULE THRU DEC 31 FULL_ON_W ..
* 292 *
* 293 *
* 294 *
* 295 *      $ EQUIPMENT DESCRIPTION
* 296 *
* 297 * HXS      =PLANT-EQUIPMENT TYPE = HTANK-STORAGE
* 298 *      SIZE = 1.1 ..
* 299 *
* 300 *
* 301 * ENERGY-RESOURCE      RESOURCE = ELECTRICITY ..
* 302 * ENERGY-RESOURCE      RESOURCE = STEAM ..
* 303 *
* 304 * ENERGY-STORAGE      HEAT-STORE-RATE = 2.65 HEAT-SUPPLY-RATE = 2.65
* 305 *      HTANK-BASE-T = 195.0 HTANK-T-RANGE = 50.0
* 306 *      HEAT-STORE-SCH = FULL_ON ..
* 307 *
* 308 * HEAT-RECOVERY
* 309 *      SUPPLY-1 = (HTANK-STORAGE)
* 310 *      DEMAND-1 = (SPACE-HEAT,PROCESS-HEAT) ..
* 311 *
* 312 *
* 313 *
* 314 * END ..
* 315 * COMPUTE PLANT ..
* 316 * STOP ..

```

ENERGY TYPE IN SITE MBTU-	STEAM	ELECTRICITY	RECOVERED
CATEGORY OF USE			
SPACE HEAT	1,861.20	0.00	0.00
SPACE COOL	0.00	0.00	0.00
HVAC AUX	0.00	108.18	0.00
DOM HOT WTR	361.03	0.00	0.00
AUX SOLAR	0.00	0.00	0.00
LIGHTS	0.00	312.69	0.00
VERT TRANS	0.00	0.00	0.00
MISC EQUIP	0.00	0.00	0.00
	-----	-----	-----
TOTAL	2,222.23	420.87	0.00

TOTAL SITE ENERGY 2643.07 MBTU 195.8 KBTU/SQFT-YR GROSS-AREA 195.8 KBTU/SQFT-YR NET-AREA  
 TOTAL SOURCE ENERGY 4967.53 MBTU 368.0 KBTU/SQFT-YR GROSS-AREA 368.0 KBTU/SQFT-YR NET-AREA

PERCENT OF HOURS ANY SYSTEM ZONE OUTSIDE OF THROTTLING RANGE = 0.4  
 PERCENT OF HOURS ANY PLANT LOAD NOT SATISFIED = 0.0

NOTE ELECTRICITY AND/OR FUEL USED TO GENERATE ELECTRICITY IS APPORTIONED BASED  
 ON THE YEARLY DEMAND. ALL OTHER ENERGY TYPES ARE APPORTIONED HOURLY.



MO	UTILITY-	STEAM	ELECTRICITY
	TOTAL (MBTU)	432.803	36.975
JAN	PEAK (KBTU)	1623.582	189.520
	DY/HR	5/12	29/14
	TOTAL (MBTU)	304.531	32.445
FEB	PEAK (KBTU)	1490.655	189.520
	DY/HR	14/ 6	26/14
	TOTAL (MBTU)	310.502	37.415
MAR	PEAK (KBTU)	1362.135	189.520
	DY/HR	26/11	26/14
	TOTAL (MBTU)	178.229	35.498
APR	PEAK (KBTU)	1063.472	189.520
	DY/HR	1/ 6	30/14
	TOTAL (MBTU)	115.928	34.894
MAY	PEAK (KBTU)	1061.820	189.520
	DY/HR	16/ 6	28/14
	TOTAL (MBTU)	51.493	34.842
JUN	PEAK (KBTU)	427.673	189.520
	DY/HR	20/ 6	25/14
	TOTAL (MBTU)	41.935	33.667
JUL	PEAK (KBTU)	556.217	189.520
	DY/HR	25/ 5	9/14
	TOTAL (MBTU)	49.199	35.992
AUG	PEAK (KBTU)	470.961	183.691
	DY/HR	22/ 5	27/14
	TOTAL (MBTU)	76.745	34.216
SEP	PEAK (KBTU)	623.217	189.520
	DY/HR	23/ 6	24/14
	TOTAL (MBTU)	138.963	34.827
OCT	PEAK (KBTU)	972.584	189.520
	DY/HR	25/ 5	29/14
	TOTAL (MBTU)	209.600	33.882
NOV	PEAK (KBTU)	1193.629	189.520
	DY/HR	28/ 6	26/14
	TOTAL (MBTU)	312.276	36.209
DEC	PEAK (KBTU)	1431.496	189.520
	DY/HR	3/11	31/14
	ONE YEAR	2222.203	420.863
	USE/PEAK	1623.582	189.520

**COMPUTER SIMULATIONS**  
**BUILDING 10745**

**RUN 3 - DDC**

LDL PROCESSOR INPUT DATA

3/20/1995 10:25:41 LDL RUN 1

```

* 3 *
* 4 *
* 5 *
* 6 *          $-----$
* 7 *          $EZ - DOE LOADS INPUT$
* 8 *          $-----$
* 9 *
* 10 *          $ GENERAL PROJECT DATA
* 11 * TITLE LINE-1 * EMC ENGINEERS INC. *
* 12 * LINE-2 *EZDOE - ELITE SOFTWARE DEVELOPMENT INC*
* 13 * LINE-3 * DENVER, CO 80227 *
* 14 *
* 15 * LINE-4 *BUILDING 10745, CHILD CARE CENTER *
* 16 * LINE-5 *MODEL WITH SET BACK AND DDC * ..
* 17 *
* 18 * ABORT ERRORS ..
* 19 * DIAGNOSTIC WARNINGS ..
* 20 * LOADS-REPORT SUMMARY=(LS-C,LS-D) ..
* 21 * BUILDING-LOCATION X-REF = 0.0
* 22 * Y-REF = 0.0 ..
* 23 * RUN-PERIOD JAN 1 1994 THRU DEC 31 1994 ..
* 24 *
* 25 *
* 26 *          $ SCHEDULES
* 27 *
* 28 * PEOPLE_D =DAY-SCHEDULE (1,6) (0.)
* 29 * (7) (0.1)
* 30 * (8,10) (1.)
* 31 * (11,12) (0.8,0.2)
* 32 * (13,14) (1.)
* 33 * (15) (0.3)
* 34 * (16,18) (0.1)
* 35 * (19,24) (0.) ..
* 36 *
* 37 * PEOPLE_SAT =DAY-SCHEDULE (1,11) (0.)
* 38 * (12) (0.2)
* 39 * (13,14) (1.)
* 40 * (15) (0.3)
* 41 * (16,18) (0.1)
* 42 * (19,24) (0.) ..
* 43 *
* 44 * LIGHT_D =DAY-SCHEDULE (1,5) (0.05)
* 45 * (6,7) (0.1)
* 46 * (8,12) (0.4,0.5,0.6,0.7,0.3)
* 47 * (13,15) (0.7,0.6,0.45)
* 48 * (16,18) (0.2)
* 49 * (19,24) (0.05) ..
* 50 *
* 51 * LIGHT_SAT =DAY-SCHEDULE (1,11) (0.05)
* 52 * (12) (0.4)
* 53 * (13,14) (0.9)
* 54 * (15) (0.55)
* 55 * (16,19) (0.4)
* 56 * (20,24) (0.05) ..
* 57 *
* 58 * FULL_ON_D =DAY-SCHEDULE (1,24) (1.) ..
* 59 *
* 60 * FULL_OFF_D =DAY-SCHEDULE (1,24) (0.) ..
* 61 *
* 62 *
* 63 * PEOPLE_W =WEEK-SCHEDULE (WD) PEOPLE_D
* 64 * (SAT) PEOPLE_SAT
* 65 * (SUN) FULL_OFF_D
* 66 * (HOL) FULL_OFF_D ..
* 67 *
* 68 * FULL_ON_W =WEEK-SCHEDULE (ALL) FULL_ON_D ..
* 69 *
* 70 * FULL_OFF_W =WEEK-SCHEDULE (ALL) FULL_OFF_D ..
* 71 *
* 72 * LIGHT_ON_W =WEEK-SCHEDULE (WD) LIGHT_D
* 73 * (SAT) LIGHT_SAT
* 74 * (SUN) FULL_OFF_D
* 75 * (HOL) FULL_OFF_D ..
* 76 *
* 77 *
* 78 * $ FULL ON SCHEDULE
* 79 * FULL_ON =SCHEDULE THRU DEC 31 FULL_ON_W ..
* 80 *
* 81 * $ FULL OFF SCHEDULE
* 82 * FULL_OFF =SCHEDULE THRU DEC 31 FULL_OFF_W ..
* 83 *
* 84 * $ OCCUPANCY SCHEDULE
* 85 * PEOPLE_SCD =SCHEDULE THRU DEC 31 PEOPLE_W ..
* 86 *
* 87 * $ LIGHTING SCHEDULE
* 88 * LIGHT_SCHD =SCHEDULE THRU DEC 31 LIGHT_ON_W ..
* 89 *
* 90 *
* 91 *
* 92 *          $ CONSTRUCTION TYPES
* 93 *
* 94 *
* 95 *
* 96 * FLOORCON =CONSTRUCTION U-VALUE = 0.100 ..
* 97 * ROOF_CON =CONSTRUCTION U-VALUE = 0.050 ..
* 98 * WALL_CON =CONSTRUCTION U-VALUE = 0.200 ..
* 99 * DOOR_CON =CONSTRUCTION U-VALUE = 1.000 ..
* 100 *
* 101 * G_TYPE1 =GLASS-TYPE GLASS-TYPE-CODE = 1
* 102 * PANES = 1

```

```

* 103 *          GLASS-CONDUCTANCE = 1.130 ..
* 104 *
* 105 *
* 106 *
* 107 *
* 108 *          $ SPACE DESCRIPTION
* 109 *
* 110 * WHOLE_BLDG =SPACE   AREA = 13500.0  VOLUME = 108000.0
* 111 *                   AZIMUTH = 45  ZONE-TYPE = CONDITIONED
* 112 *                   PEOPLE-SCHEDULE = PEOPLE_SCD  NUMBER-OF-PEOPLE = 50.0
* 113 *                   PEOPLE-HEAT-GAIN = 450.0  LIGHTING-TYPE = INCAND
* 114 *                   LIGHTING-KW = 54.4  LIGHTING-SCHEDULE = LIGHT_SCHD
* 115 *                   SOURCE-SCHEDULE = FULL_ON  SOURCE-TYPE = HOT-WATER
* 116 *                   SOURCE-BTU/HR = 41210.0  SOURCE-SENSIBLE = 0.0
* 117 *                   INF-METHOD = AIR-CHANGE  AIR-CHANGES/HR = 2.0
* 118 *                   INF-SCHEDULE = FULL_ON  ..
* 119 *
* 120 *          U-W      HEIGHT = 112.0  WIDTH = 120.5  CONS = FLOORCON
* 121 *                   AZIMUTH = 45  ..
* 122 *
* 123 *          ROOF      HEIGHT = 112.0  WIDTH = 120.5  CONS = ROOF_CON
* 124 *                   AZIMUTH = 45  TILT = 0  ..
* 125 *
* 126 *          WINDOW   HEIGHT = 4.0  WIDTH = 4.0  G-T = G_TYPE1
* 127 *                   MULTIPLIER = 21.0  ..
* 128 *
* 129 *          DOOR      HEIGHT = 7.5  WIDTH = 3.0  CONS = DOOR_CON
* 130 *                   MULTIPLIER = 6.0  ..
* 131 *
* 132 *          E-W      HEIGHT = 8.0  WIDTH = 169.0  CONS = WALL_CON
* 133 *                   AZIMUTH = 45  ..
* 134 *
* 135 *          WINDOW   HEIGHT = 4.0  WIDTH = 4.0  G-T = G_TYPE1
* 136 *                   MULTIPLIER = 11.0  ..
* 137 *
* 138 *          DOOR      HEIGHT = 7.5  WIDTH = 3.0  CONS = DOOR_CON
* 139 *                   MULTIPLIER = 5.0  ..
* 140 *
* 141 *          E-W      HEIGHT = 8.0  WIDTH = 197.0  CONS = WALL_CON
* 142 *                   AZIMUTH = 135  ..
* 143 *
* 144 *          WINDOW   HEIGHT = 4.0  WIDTH = 4.0  G-T = G_TYPE1
* 145 *                   MULTIPLIER = 12.0  ..
* 146 *
* 147 *          DOOR      HEIGHT = 7.5  WIDTH = 3.0  CONS = DOOR_CON
* 148 *                   MULTIPLIER = 6.0  ..
* 149 *
* 150 *          E-W      HEIGHT = 8.0  WIDTH = 179.0  CONS = WALL_CON
* 151 *                   AZIMUTH = 225  ..
* 152 *
* 153 *          E-W      HEIGHT = 8.0  WIDTH = 188.0  CONS = WALL_CON
* 154 *                   AZIMUTH = 315  ..
* 155 *
* 156 *
* 157 *          END  ..
* 158 *          COMPUTE LOADS  ..
* 159 *
* 160 *          INPUT SYSTEMS  ..

```

# SDL PROCESSOR INPUT DATA

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```

* 161 *
* 162 *
* 163 *
* 164 *          $-----$
* 165 *          $EZ - DOE SYSTEMS INPUT $
* 166 *          $-----$
* 167 *
* 168 *          $ GENERAL PROJECT DATA
* 169 *
* 170 * TITLE LINE-1 * EMC ENGINEERS INC. *
* 171 * LINE-2 *EZDOE - ELITE SOFTWARE DEVELOPMENT INC*
* 172 * LINE-3 * DENVER, CO 80227 *
* 173 *
* 174 * LINE-4 *BUILDING 10745, CHILD CARE CENTER *
* 175 * LINE-5 *MODEL WITH SET BACK AND DDC * ..
* 176 * ABORT ERRORS ..
* 177 * DIAGNOSTIC WARNINGS ..
* 178 * SYSTEMS-REPORT SUMMARY=(SS-A,SS-C,SS-F,SS-K) ..
* 179 *
* 180 *          $ SCHEDULES
* 181 *
* 182 * FULL_ON_D =DAY-SCHEDULE (1,24) (1.) ..
* 183 * FULL_OFF_D =DAY-SCHEDULE (1,24) (1.) ..
* 184 * HEAT_68_D =DAY-SCHEDULE (1,24) (68.) ..
* 185 * FAN_WSB1_D =DAY-SCHEDULE (1,4) (0.)
* 186 * (5,17) (1.)
* 187 * (18,24) (0.) ..
* 188 * HT68_WSB_D =DAY-SCHEDULE (1,4) (50.)
* 189 * (5,17) (68.)
* 190 * (18,24) (50.) ..
* 191 * HEAT50_D =DAY-SCHEDULE (1,24) (50.) ..
* 192 * FAN_WSB2_D =DAY-SCHEDULE (1,10) (0.)
* 193 * (11,17) (1.)
* 194 * (18,24) (0.) ..
* 195 * HT68_WSB2D =DAY-SCHEDULE (1,10) (50.)
* 196 * (11,17) (68.)
* 197 * (18,24) (50.) ..
* 198 *
* 199 * FULL_ON_W =WEEK-SCHEDULE (ALL) FULL_ON_D ..
* 200 * FULL_OFF_W =WEEK-SCHEDULE (ALL) FULL_OFF_D ..
* 201 *
* 202 * HEAT_68_W =WEEK-SCHEDULE (ALL) HEAT_68_D ..
* 203 *
* 204 * FAN_WSB_W =WEEK-SCHEDULE (WD) FAN_WSB1_D
* 205 * (SAT) FAN_WSB2_D
* 206 * (SUN) FULL_OFF_D
* 207 * (HOL) FAN_WSB1_D ..
* 208 *
* 209 * HT68_WSB_W =WEEK-SCHEDULE (WD) HT68_WSB_D
* 210 * (SAT) HT68_WSB2D
* 211 * (SUN) HEAT50_D
* 212 * (HOL) HT68_WSB_D ..
* 213 *
* 214 *
* 215 * $ FULL ON SCHEDULE
* 216 * FULL_ON =SCHEDULE THRU DEC 31 FULL_ON_W ..
* 217 *
* 218 * $ FULL OFF SCHEDULE
* 219 * FULL_OFF =SCHEDULE THRU DEC 31 FULL_OFF_W ..
* 220 *
* 221 * $ HEATING SCHEDULE
* 222 * HEAT_68 =SCHEDULE THRU DEC 31 HEAT_68_W ..
* 223 *
* 224 * $ FAN SCHD WITH SET BACK
* 225 * FAN_W_SB =SCHEDULE THRU DEC 31 FAN_WSB_W ..
* 226 *
* 227 * $ HEAT SCHED W SET BACK
* 228 * HT_68_W_SB =SCHEDULE THRU DEC 31 HT68_WSB_W ..
* 229 *
* 230 *
* 231 *
* 232 *          $ ZONE DESCRIPTION
* 233 *
* 234 * WHOLE_BLDG =ZONE DESIGN-HEAT-T = 68.0 DESIGN-COOL-T = 80.0
* 235 * HEAT-TEMP-SCH = HT_68_W_SB ZONE-TYPE = CONDITIONED
* 236 * THERMOSTAT-TYPE = PROPORTIONAL
* 237 * BASEBOARD-CTRL = THERMOSTATIC
* 238 * BASEBOARD-RATING = -878500. ASSIGNED-CFM = 10563.
* 239 * OUTSIDE-AIR-CFM = 4404. SIZING-OPTION = FROM-LOADS
* 240 * MIN-CFM-RATIO = 1.0 EXHAUST-CFM = 4404.0
* 241 * HEATING-CAPACITY = -477000.0 ..
* 242 *
* 243 *
* 244 *          $ SYSTEM DESCRIPTION
* 245 *
* 246 * HV_UNITS =SYSTEM SYSTEM-TYPE = HVSYS
* 247 * MAX-SUPPLY-T = 135.0 MIN-HUMIDITY = 30.0
* 248 * ECONO-LIMIT-T = 65.0 ECONO-LOW-LIMIT = 55.0
* 249 * HEAT-CONTROL = COLDEST SUPPLY-CFM = 10563.
* 250 * RETURN-CFM = 6159. RATED-CFM = 10563.
* 251 * MIN-OUTSIDE-AIR = 0.42 FAN-SCHEDULE = FAN_W_SB
* 252 * SUPPLY-DELTA-T = 2.4 SUPPLY-KW = 0.00046
* 253 * MOTOR-PLACEMENT = OUTSIDE-AIRFLOW
* 254 * NIGHT-CYCLE-CTRL = CYCLE-ON-ANY NIGHT-VENT-DT = 0.0
* 255 * HEATING-CAPACITY = -477000. FURNACE-AUX = 0.
* 256 * ZONE-NAMES = (WHOLE_BLDG) ..
* 257 *
* 258 * END ..
* 259 * COMPUTE SYSTEMS ..
* 260 *

```

\* 261 \* INPUT PLANT ..

PDL PROCESSOR INPUT DATA

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```

* 262 *
* 263 *
* 264 *          $-----$
* 265 *          $EZ - DOE PLANTS INPUT$
* 266 *          $-----$
* 267 *
* 268 *          $ GENERAL PROJECT DATA
* 269 *
* 270 * TITLE LINE-1 *      EMC      ENGINEERS      INC.      *
* 271 *      LINE-2 *EZDOE - ELITE SOFTWARE DEVELOPMENT INC*
* 272 *      LINE-3 *      DENVER,      CO      80227      *
* 273 *
* 274 *      LINE-4 *BUILDING 10745, CHILD CARE CENTER      *
* 275 *      LINE-5 *MODEL WITH SET BACK AND DDC      * ..
* 276 *
* 277 * ABORT      ERRORS ..
* 278 * DIAGNOSTIC      WARNINGS ..
* 279 * PLANT-REPORT      SUMMARY=(PS-A,PS-B,BEPS)
* 280 * ..
* 281 *
* 282 *          $ SCHEDULES
* 283 *
* 284 * FULL_ON_D =DAY-SCHEDULE (1,24) (1.) ..
* 285 *
* 286 *
* 287 * FULL_ON_W =WEEK-SCHEDULE (ALL) FULL_ON_D ..
* 288 *
* 289 *
* 290 * $ FULL ON SCHEDULE
* 291 * FULL_ON =SCHEDULE THRU DEC 31 FULL_ON_W ..
* 292 *
* 293 *
* 294 *
* 295 *          $ EQUIPMENT DESCRIPTION
* 296 *
* 297 * HXS      =PLANT-EQUIPMENT      TYPE = HTANK-STORAGE
* 298 *      SIZE = 1.1 ..
* 299 *
* 300 *
* 301 * ENERGY-RESOURCE      RESOURCE = ELECTRICITY ..
* 302 * ENERGY-RESOURCE      RESOURCE = STEAM ..
* 303 *
* 304 * ENERGY-STORAGE      HEAT-STORE-RATE = 2.65 HEAT-SUPPLY-RATE = 2.65
* 305 *      HTANK-BASE-T = 195.0 HTANK-T-RANGE = 50.0
* 306 *      HEAT-STORE-SCH = FULL_ON ..
* 307 *
* 308 * HEAT-RECOVERY
* 309 *      SUPPLY-1 = (HTANK-STORAGE)
* 310 *      DEMAND-1 = (SPACE-HEAT,PROCESS-HEAT) ..
* 311 *
* 312 *
* 313 *
* 314 * END ..
* 315 * COMPUTE PLANT ..
* 316 * STOP ..

```

ENERGY TYPE IN SITE MBTU-	STEAM	ELECTRICITY	RECOVERED
CATEGORY OF USE			
SPACE HEAT	1,517.14	0.00	0.00
SPACE COOL	0.00	0.00	0.00
HVAC AUX	0.00	106.62	0.00
DOM HOT WTR	361.03	0.00	0.00
AUX SOLAR	0.00	0.00	0.00
LIGHTS	0.00	312.70	0.00
VERT TRANS	0.00	0.00	0.00
MISC EQUIP	0.00	0.00	0.00
	-----	-----	-----
TOTAL	1,878.17	419.31	0.00

TOTAL SITE ENERGY 2297.44 MBTU 170.2 KBTU/SQFT-YR GROSS-AREA 170.2 KBTU/SQFT-YR NET-AREA  
 TOTAL SOURCE ENERGY 4389.40 MBTU 325.1 KBTU/SQFT-YR GROSS-AREA 325.1 KBTU/SQFT-YR NET-AREA

PERCENT OF HOURS ANY SYSTEM ZONE OUTSIDE OF THROTTLING RANGE = 0.1  
 PERCENT OF HOURS ANY PLANT LOAD NOT SATISFIED = 0.0

NOTE ELECTRICITY AND/OR FUEL USED TO GENERATE ELECTRICITY IS APPORTIONED BASED  
 ON THE YEARLY DEMAND. ALL OTHER ENERGY TYPES ARE APPORTIONED HOURLY.



EMC ENGINEERS INC. EZDOE - ELITE SOFTWARE DEVELOPMENT INC DOE-2.1D 3/20/1995 10:25:41 PDL RUN 1  
 DENVER, CO 80227 BUILDING 10745, CHILD CARE CENTER MODEL WITH SET BACK AND DDC  
 REPORT- PS-B MONTHLY PEAK AND TOTAL ENERGY USE WEATHER FILE- MASSENA, NY

MO	UTILITY-	STEAM	ELECTRICITY
	TOTAL (MBTU)	396.075	37.116
JAN	PEAK (KBTU)	1576.671	189.348
	DY/HR	5/ 6	29/14
	TOTAL (MBTU)	270.767	32.536
FEB	PEAK (KBTU)	1334.627	189.348
	DY/HR	5/11	26/14
	TOTAL (MBTU)	269.390	37.506
MAR	PEAK (KBTU)	1187.175	189.348
	DY/HR	9/ 6	26/14
	TOTAL (MBTU)	140.782	35.434
APR	PEAK (KBTU)	918.396	189.348
	DY/HR	1/ 6	30/14
	TOTAL (MBTU)	84.868	34.607
MAY	PEAK (KBTU)	859.429	189.348
	DY/HR	16/ 6	28/14
	TOTAL (MBTU)	37.422	34.412
JUN	PEAK (KBTU)	274.741	189.348
	DY/HR	8/ 5	11/14
	TOTAL (MBTU)	34.674	33.395
JUL	PEAK (KBTU)	367.432	183.691
	DY/HR	25/ 5	30/14
	TOTAL (MBTU)	36.606	35.628
AUG	PEAK (KBTU)	291.309	183.691
	DY/HR	22/ 5	27/14
	TOTAL (MBTU)	53.642	33.870
SEP	PEAK (KBTU)	487.049	189.348
	DY/HR	23/ 6	24/13
	TOTAL (MBTU)	103.859	34.651
OCT	PEAK (KBTU)	797.119	189.348
	DY/HR	25/ 5	29/14
	TOTAL (MBTU)	173.663	33.860
NOV	PEAK (KBTU)	998.675	189.348
	DY/HR	28/ 6	26/14
	TOTAL (MBTU)	276.394	36.288
DEC	PEAK (KBTU)	1250.008	189.348
	DY/HR	3/11	31/14
	ONE YEAR	1878.141	419.301
	USE/PEAK	1576.671	189.348

LDL PROCESSOR INPUT DATA

3/18/1995 12: 0:31 LDL RUN 1

```

* 3 *
* 4 *
* 5 *
* 6 *          $-----$
* 7 *          $EZ - DOE LOADS INPUT $
* 8 *          $-----$
* 9 *
* 10 *          $ GENERAL PROJECT DATA
* 11 * TITLE LINE-1 * EMC ENGINEERS INC. *
* 12 * LINE-2 *EZDOB - ELITE SOFTWARE DEVELOPMENT INC*
* 13 * LINE-3 * DENVER, CO 80227 *
* 14 *
* 15 * LINE-4 *BUILDING 10745, CHILD CARE CENTER *
* 16 * LINE-5 *MODEL WITH SETBACK, DDC, AND FORCED VENT* ..
* 17 *
* 18 * ABORT ERRORS ..
* 19 * DIAGNOSTIC WARNINGS ..
* 20 * LOADS-REPORT SUMMARY=(LS-C,LS-D) ..
* 21 * BUILDING-LOCATION X-REF = 0.0
* 22 * Y-REF = 0.0 ..
* 23 * RUN-PERIOD JAN 1 1994 THRU DEC 31 1994 ..
* 24 *
* 25 *
* 26 *          $ SCHEDULES
* 27 *
* 28 * PEOPLE_D =DAY-SCHEDULE (1,6) (0.)
* 29 * (7) (0.1)
* 30 * (8,10) (1.)
* 31 * (11,12) (0.8,0.2)
* 32 * (13,14) (1.)
* 33 * (15) (0.3)
* 34 * (16,18) (0.1)
* 35 * (19,24) (0.) ..
* 36 *
* 37 * PEOPLE_SAT =DAY-SCHEDULE (1,11) (0.)
* 38 * (12) (0.2)
* 39 * (13,14) (1.)
* 40 * (15) (0.3)
* 41 * (16,18) (0.1)
* 42 * (19,24) (0.) ..
* 43 *
* 44 * LIGHT_D =DAY-SCHEDULE (1,5) (0.05)
* 45 * (6,7) (0.1)
* 46 * (8,12) (0.4,0.5,0.6,0.7,0.3)
* 47 * (13,15) (0.7,0.6,0.45)
* 48 * (16,18) (0.2)
* 49 * (19,24) (0.05) ..
* 50 *
* 51 * LIGHT_SAT =DAY-SCHEDULE (1,11) (0.05)
* 52 * (12) (0.4)
* 53 * (13,14) (0.9)
* 54 * (15) (0.55)
* 55 * (16,19) (0.4)
* 56 * (20,24) (0.05) ..
* 57 *
* 58 * FULL_ON_D =DAY-SCHEDULE (1,24) (1.) ..
* 59 *
* 60 * FULL_OFF_D =DAY-SCHEDULE (1,24) (0.) ..
* 61 *
* 62 *
* 63 * PEOPLE_W =WEEK-SCHEDULE (WD) PEOPLE_D
* 64 * (SAT) PEOPLE_SAT
* 65 * (SUN) FULL_OFF_D
* 66 * (HOL) FULL_OFF_D ..
* 67 *
* 68 * FULL_ON_W =WEEK-SCHEDULE (ALL) FULL_ON_D ..
* 69 *
* 70 * FULL_OFF_W =WEEK-SCHEDULE (ALL) FULL_OFF_D ..
* 71 *
* 72 * LIGHT_ON_W =WEEK-SCHEDULE (WD) LIGHT_D
* 73 * (SAT) LIGHT_SAT
* 74 * (SUN) FULL_OFF_D
* 75 * (HOL) FULL_OFF_D ..
* 76 *
* 77 *
* 78 * $ FULL ON SCHEDULE
* 79 * FULL_ON =SCHEDULE THRU DEC 31 FULL_ON_W ..
* 80 *
* 81 * $ FULL OFF SCHEDULE
* 82 * FULL_OFF =SCHEDULE THRU DEC 31 FULL_OFF_W ..
* 83 *
* 84 * $ OCCUPANCY SCHEDULE
* 85 * PEOPLE_SCD =SCHEDULE THRU DEC 31 PEOPLE_W ..
* 86 *
* 87 * $ LIGHTING SCHEDULE
* 88 * LIGHT_SCHD =SCHEDULE THRU DEC 31 LIGHT_ON_W ..
* 89 *
* 90 *
* 91 *
* 92 *          $ CONSTRUCTION TYPES
* 93 *
* 94 *
* 95 *
* 96 * FLOORCON =CONSTRUCTION U-VALUE = 0.100 ..
* 97 * ROOF_CON =CONSTRUCTION U-VALUE = 0.050 ..
* 98 * WALL_CON =CONSTRUCTION U-VALUE = 0.200 ..
* 99 * DOOR_CON =CONSTRUCTION U-VALUE = 1.000 ..
* 100 *
* 101 * G_TYPE1 =GLASS-TYPE GLASS-TYPE-CODE = 1
* 102 * PANES = 1

```

```

* 103 *
* 104 *
* 105 *
* 106 *
* 107 *
* 108 *
* 109 *
* 110 * $ SPACE DESCRIPTION
* 111 *
* 112 * WHOLE_BLDG =SPACE AREA = 13500.0 VOLUME = 108000.0
* 113 * AZIMUTH = 45 ZONE-TYPE = CONDITIONED
* 114 * PEOPLE-SCHEDULE = PEOPLE_SCD NUMBER-OF-PEOPLE = 50.0
* 115 * PEOPLE-HEAT-GAIN = 450.0 LIGHTING-TYPE = INCAND
* 116 * LIGHTING-KW = 54.4 LIGHTING-SCHEDULE = LIGHT_SCHD
* 117 * SOURCE-SCHEDULE = FULL_ON SOURCE-TYPE = HOT-WATER
* 118 * SOURCE-BTU/HR = 41210.0 SOURCE-SENSIBLE = 0.0
* 119 * INF-METHOD = AIR-CHANGE AIR-CHANGES/HR = 2.0
* 120 * INF-SCHEDULE = FULL_ON ..
* 121 *
* 122 * U-W HEIGHT = 112.0 WIDTH = 120.5 CONS = FLOORCON
* 123 * AZIMUTH = 45 ..
* 124 *
* 125 * ROOF HEIGHT = 112.0 WIDTH = 120.5 CONS = ROOF_CON
* 126 * AZIMUTH = 45 TILT = 0 ..
* 127 *
* 128 * WINDOW HEIGHT = 4.0 WIDTH = 4.0 G-T = G_TYPE1
* 129 * MULTIPLIER = 21.0 ..
* 130 *
* 131 * DOOR HEIGHT = 7.5 WIDTH = 3.0 CONS = DOOR_CON
* 132 * MULTIPLIER = 6.0 ..
* 133 *
* 134 * E-W HEIGHT = 8.0 WIDTH = 169.0 CONS = WALL_CON
* 135 * AZIMUTH = 45 ..
* 136 *
* 137 * WINDOW HEIGHT = 4.0 WIDTH = 4.0 G-T = G_TYPE1
* 138 * MULTIPLIER = 11.0 ..
* 139 *
* 140 * DOOR HEIGHT = 7.5 WIDTH = 3.0 CONS = DOOR_CON
* 141 * MULTIPLIER = 5.0 ..
* 142 *
* 143 * E-W HEIGHT = 8.0 WIDTH = 197.0 CONS = WALL_CON
* 144 * AZIMUTH = 135 ..
* 145 *
* 146 * WINDOW HEIGHT = 4.0 WIDTH = 4.0 G-T = G_TYPE1
* 147 * MULTIPLIER = 12.0 ..
* 148 *
* 149 * DOOR HEIGHT = 7.5 WIDTH = 3.0 CONS = DOOR_CON
* 150 * MULTIPLIER = 6.0 ..
* 151 *
* 152 * E-W HEIGHT = 8.0 WIDTH = 179.0 CONS = WALL_CON
* 153 * AZIMUTH = 225 ..
* 154 *
* 155 * E-W HEIGHT = 8.0 WIDTH = 188.0 CONS = WALL_CON
* 156 * AZIMUTH = 315 ..
* 157 *
* 158 * END ..
* 159 * COMPUTE LOADS ..
* 160 * INPUT SYSTEMS ..

```

**COMPUTER SIMULATIONS**  
**BUILDING 10745**

**RUN 4 - FORCED VENTILATION**

SDL PROCESSOR INPUT DATA

3/18/1995 12: 0:31 SDL RUN 1

```

* 161 *
* 162 *
* 163 *      $-----$
* 164 *      $EZ - DOE SYSTEMS INPUT$
* 165 *      $-----$
* 166 *
* 167 *      $ GENERAL PROJECT DATA
* 168 *
* 169 * TITLE LINE-1 * EMC ENGINEERS INC. *
* 170 * LINE-2 *EZDOE - ELITE SOFTWARE DEVELOPMENT INC*
* 171 * LINE-3 * DENVER, CO 80227 *
* 172 *
* 173 * LINE-4 *BUILDING 10745, CHILD CARE CENTER *
* 174 * LINE-5 *MODEL WITH SETBACK, DDC, AND FORCED VENT* ..
* 175 * ABORT ERRORS ..
* 176 * DIAGNOSTIC WARNINGS ..
* 177 * SYSTEMS-REPORT SUMMARY=(SS-A,SS-C,SS-F,SS-K) ..
* 178 *
* 179 *      $ SCHEDULES
* 180 *
* 181 * FULL_ON_D =DAY-SCHEDULE (1,24) (1.) ..
* 182 * FULL_OFF_D =DAY-SCHEDULE (1,24) (1.) ..
* 183 * HEAT_68_D =DAY-SCHEDULE (1,24) (68.) ..
* 184 * FAN_WSB1_D =DAY-SCHEDULE (1,4) (0.)
* 185 * (5,17) (1.)
* 186 * (18,24) (0.) ..
* 187 * HT68_WSB_D =DAY-SCHEDULE (1,4) (50.)
* 188 * (5,17) (68.)
* 189 * (18,24) (50.) ..
* 190 * HEAT50_D =DAY-SCHEDULE (1,24) (50.) ..
* 191 * FAN_WSB2_D =DAY-SCHEDULE (1,10) (0.)
* 192 * (11,17) (1.)
* 193 * (18,24) (0.) ..
* 194 * HT68_WSB2D =DAY-SCHEDULE (1,10) (50.)
* 195 * (11,17) (68.)
* 196 * (18,24) (50.) ..
* 197 * MOA.42_D1 =DAY-SCHEDULE (1,5) (0.)
* 198 * (6,17) (0.42)
* 199 * (18,24) (0.) ..
* 200 * MOA.42_D2 =DAY-SCHEDULE (1,11) (0.)
* 201 * (12,17) (0.42)
* 202 * (18,24) (0.) ..
* 203 *
* 204 * FULL_ON_W =WEEK-SCHEDULE (ALL) FULL_ON_D ..
* 205 *
* 206 * FULL_OFF_W =WEEK-SCHEDULE (ALL) FULL_OFF_D ..
* 207 *
* 208 * HEAT_68_W =WEEK-SCHEDULE (ALL) HEAT_68_D ..
* 209 *
* 210 * FAN_WSB_W =WEEK-SCHEDULE (WD) FAN_WSB1_D
* 211 * (SAT) FAN_WSB2_D
* 212 * (SUN) FULL_OFF_D
* 213 * (HOL) FAN_WSB1_D ..
* 214 *
* 215 * HT68_WSB_W =WEEK-SCHEDULE (WD) HT68_WSB_D
* 216 * (SAT) HT68_WSB2D
* 217 * (SUN) HEAT50_D
* 218 * (HOL) HT68_WSB_D ..
* 219 *
* 220 * MOA.42_W =WEEK-SCHEDULE (WD) MOA.42_D1
* 221 * (SAT) MOA.42_D2
* 222 * (SUN) FULL_OFF_D
* 223 * (HOL) MOA.42_D1 ..
* 224 *
* 225 *
* 226 * $ FULL_ON SCHEDULE
* 227 * FULL_ON =SCHEDULE THRU DEC 31 FULL_ON_W ..
* 228 *
* 229 * $ FULL OFF SCHEDULE
* 230 * FULL_OFF =SCHEDULE THRU DEC 31 FULL_OFF_W ..
* 231 *
* 232 * $ HEATING SCHEDULE
* 233 * HEAT_68 =SCHEDULE THRU DEC 31 HEAT_68_W ..
* 234 *
* 235 * $ FAN SCHD WITH SET BACK
* 236 * FAN_W_SB =SCHEDULE THRU DEC 31 FAN_WSB_W ..
* 237 *
* 238 * $ HEAT SCHED W SET BACK
* 239 * HT_68_W_SB =SCHEDULE THRU DEC 31 HT68_WSB_W ..
* 240 *
* 241 * $ FORCED VENTILATION
* 242 * MOA.42_FV =SCHEDULE THRU DEC 31 MOA.42_W ..
* 243 *
* 244 *
* 245 *
* 246 *      $ ZONE DESCRIPTION
* 247 *
* 248 * WHOLE_BLDG =ZONE DESIGN-HEAT-T = 68.0 DESIGN-COOL-T = 80.0
* 249 * HEAT-TEMP-SCH = HT_68_W_SB ZONE-TYPE = CONDITIONED
* 250 * THERMOSTAT-TYPE = PROPORTIONAL
* 251 * BASEBOARD-CTRL = THERMOSTATIC
* 252 * BASEBOARD-RATING = -878500. ASSIGNED-CFM = 10563.
* 253 * OUTSIDE-AIR-CFM = 4404. SIZING-OPTION = FROM-LOADS
* 254 * MIN-CFM-RATIO = 1.0 EXHAUST-CFM = 4404.0
* 255 * HEATING-CAPACITY = -477000.0 ..
* 256 *
* 257 *
* 258 *      $ SYSTEM DESCRIPTION
* 259 *
* 260 * HV_UNITS =SYSTEM SYSTEM-TYPE = HVSYS

```

```

* 261 *          MAX-SUPPLY-T = 135.0  MIN-HUMIDITY = 30.0
* 262 *          ECONO-LIMIT-T = 65.0  ECONO-LOW-LIMIT = 55.0
* 263 *          HEAT-CONTROL = COLDEST  SUPPLY-CFM = 10563.
* 264 *          RETURN-CFM = 6159.  RATED-CFM = 10563.
* 265 *          MIN-OUTSIDE-AIR = 0.42  MIN-AIR-SCH = MOA.42_FV
* 266 *          FAN-SCHEDULE = FAN_W_SB  SUPPLY-DELTA-T = 2.4
* 267 *          SUPPLY-KW = 0.00046
* 268 *          MOTOR-PLACEMENT = OUTSIDE-AIRFLOW
* 269 *          NIGHT-CYCLE-CTRL = CYCLE-ON-ANY  NIGHT-VENT-DT = 0.0
* 270 *          HEATING-CAPACITY = -477000.  FURNACE-AUX = 0.
* 271 *          ZONE-NAMES = (WHOLE_BLDG)  ..
* 272 *
* 273 * END  ..
* 274 * COMPUTE SYSTEMS  ..
* 275 *
* 276 * INPUT PLANT  ..

```

P D L P R O C E S S O R I N P U T D A T A

3/18/1995 12: 0:31 PDL RUN 1

```

* 277 *
* 278 *
* 279 *          $-----$
* 280 *          $ E Z - D O E P L A N T S I N P U T $
* 281 *          $-----$
* 282 *
* 283 *          $ GENERAL PROJECT DATA
* 284 *
* 285 * TITLE LINE-1 * EMC ENGINEERS INC. *
* 286 * LINE-2 *EZDOE - ELITE SOFTWARE DEVELOPMENT INC*
* 287 * LINE-3 * DENVER, CO 80227 *
* 288 *
* 289 * LINE-4 *BUILDING 10745, CHILD CARE CENTER *
* 290 * LINE-5 *MODEL WITH SETBACK, DDC, AND FORCED VENT* ..
* 291 *
* 292 * ABORT ERRORS ..
* 293 * DIAGNOSTIC WARNINGS ..
* 294 * PLANT-REPORT SUMMARY=(PS-A,PS-B,BEPS)
* 295 * ..
* 296 *
* 297 *          $ SCHEDULES
* 298 *
* 299 * FULL_ON_D =DAY-SCHEDULE (1,24) (1.) ..
* 300 *
* 301 *
* 302 * FULL_ON_W =WEEK-SCHEDULE (ALL) FULL_ON_D ..
* 303 *
* 304 *
* 305 * $ FULL ON SCHEDULE
* 306 * FULL_ON =SCHEDULE THRU DEC 31 FULL_ON_W ..
* 307 *
* 308 *
* 309 *
* 310 *          $ EQUIPMENT DESCRIPTION
* 311 *
* 312 * HXS =PLANT-EQUIPMENT TYPE = HTANK-STORAGE
* 313 * SIZE = 1.1 ..
* 314 *
* 315 *
* 316 * ENERGY-RESOURCE RESOURCE = ELECTRICITY ..
* 317 * ENERGY-RESOURCE RESOURCE = STEAM ..
* 318 *
* 319 * ENERGY-STORAGE HEAT-STORE-RATE = 2.65 HEAT-SUPPLY-RATE = 2.65
* 320 * HTANK-BASE-T = 195.0 HTANK-T-RANGE = 50.0
* 321 * HEAT-STORE-SCH = FULL_ON ..
* 322 *
* 323 * HEAT-RECOVERY
* 324 * SUPPLY-1 = (HTANK-STORAGE)
* 325 * DEMAND-1 = (SPACE-HEAT,PROCESS-HEAT) ..
* 326 *
* 327 *
* 328 *
* 329 * END ..
* 330 * COMPUTE PLANT ..
* 331 * STOP ..

```

ENERGY TYPE IN SITE MBTU-	STEAM	ELECTRICITY	RECOVERED
CATEGORY OF USE			
SPACE HEAT	1,635.23	0.00	0.00
SPACE COOL	0.00	0.00	0.00
HVAC AUX	0.00	105.33	0.00
DOM HOT WTR	361.03	0.00	0.00
AUX SOLAR	0.00	0.00	0.00
LIGHTS	0.00	312.69	0.00
VERT TRANS	0.00	0.00	0.00
MISC EQUIP	0.00	0.00	0.00
	-----	-----	-----
TOTAL	1,996.26	418.02	0.00

TOTAL SITE ENERGY 2414.24 MBTU 178.8 KBTU/SQFT-YR GROSS-AREA 178.8 KBTU/SQFT-YR NET-AREA  
 TOTAL SOURCE ENERGY 4582.34 MBTU 339.4 KBTU/SQFT-YR GROSS-AREA 339.4 KBTU/SQFT-YR NET-AREA

PERCENT OF HOURS ANY SYSTEM ZONE OUTSIDE OF THROTTLING RANGE = 0.1  
 PERCENT OF HOURS ANY PLANT LOAD NOT SATISFIED = 0.0

NOTE ELECTRICITY AND/OR FUEL USED TO GENERATE ELECTRICITY IS APPORTIONED BASED  
 ON THE YEARLY DEMAND. ALL OTHER ENERGY TYPES ARE APPORTIONED HOURLY.



MO	UTILITY-	STEAM	ELECTRICITY
	TOTAL (MBTU)	425.958	37.118
JAN	PEAK (KBTU)	1577.496	189.351
	DY/HR	5/ 6	29/14
	TOTAL (MBTU)	294.335	32.537
FEB	PEAK (KBTU)	1334.601	189.351
	DY/HR	5/11	26/14
	TOTAL (MBTU)	286.742	37.501
MAR	PEAK (KBTU)	1190.619	189.351
	DY/HR	9/ 6	26/14
	TOTAL (MBTU)	148.015	35.367
APR	PEAK (KBTU)	920.627	189.351
	DY/HR	1/ 6	30/14
	TOTAL (MBTU)	85.987	34.376
MAY	PEAK (KBTU)	879.094	189.351
	DY/HR	16/ 6	28/14
	TOTAL (MBTU)	37.351	34.265
JUN	PEAK (KBTU)	275.392	189.351
	DY/HR	8/ 5	11/14
	TOTAL (MBTU)	34.625	33.248
JUL	PEAK (KBTU)	391.163	183.691
	DY/HR	25/ 5	30/14
	TOTAL (MBTU)	36.761	35.498
AUG	PEAK (KBTU)	347.680	183.691
	DY/HR	22/ 5	27/14
	TOTAL (MBTU)	53.648	33.661
SEP	PEAK (KBTU)	488.478	189.351
	DY/HR	23/ 6	24/13
	TOTAL (MBTU)	105.183	34.357
OCT	PEAK (KBTU)	799.124	189.351
	DY/HR	25/ 5	29/14
	TOTAL (MBTU)	185.032	33.793
NOV	PEAK (KBTU)	1002.176	189.351
	DY/HR	28/ 6	26/14
	TOTAL (MBTU)	302.596	36.290
DEC	PEAK (KBTU)	1249.986	189.351
	DY/HR	3/11	31/14
	ONE YEAR	1996.232	418.012
	USE/PEAK	1577.496	189.351

**COMPUTER SIMULATIONS**

**BUILDING 10785**

**COMPUTER SIMULATIONS**  
BUILDING 10785

BASE RUN

# LDL PROCESSOR INPUT DATA

3/21/1995 15:249 LDL RUN 1

```

* 3 *
* 4 *
* 5 *      $-----$
* 6 *      $EZ-DOE LOADS INPUT$
* 7 *      $-----$
* 8 *
* 9 *      $ GENERAL PROJECT DATA
* 10 *
* 11 * TITLE LINE-1 * EMC ENGINEERS INC. *
* 12 * LINE-2 *EZDOE - ELITE SOFTWARE DEVELOPMENT INC*
* 13 * LINE-3 * DENVER, CO 80227 *
* 14 *
* 15 * LINE-4 *BLDG 10785, CHAPEL, REL ED, CHILD CARE *
* 16 * LINE-5 *BASE MODEL *..
* 17 *
* 18 * ABORT ERRORS ..
* 19 * DIAGNOSTIC WARNINGS ..
* 20 * LOADS-REPORT SUMMARY=(LS-A,LS-B,LS-C,LS-D,LS-E,LS-F,LS-K) ..
* 21 * BUILDING-LOCATION LATITUDE = 44.0
* 22 * ALTITUDE = 655.
* 23 * AZIMUTH = -130.
* 24 * TIME-ZONE = 5
* 25 * GROSS-AREA = 50591
* 26 * HOLIDAY = NO
* 27 * SHIELDING-COEF = 0.29
* 28 * X-REF = 0.0
* 29 * Y-REF = 0.0 ..
* 30 * RUN-PERIOD JAN 1 1994 THRU DEC 31 1994 ..
* 31 *
* 32 *
* 33 *      $ SCHEDULES
* 34 *
* 35 * LIGHTS =DAY-SCHEDULE (1,2) (1.)
* 36 *      (3,11) (0.5)
* 37 *      (12,13) (0.6)
* 38 *      (14,24) (1.) ..
* 39 *
* 40 * OCCUP =DAY-SCHEDULE (1,5) (0.)
* 41 *      (6,10) (0.1,0.5,0.9,0.8,0.5)
* 42 *      (11,14) (0.7,0.9,0.8,0.4)
* 43 *      (15,16) (0.3)
* 44 *      (17,18) (0.5,0.9)
* 45 *      (19,20) (0.7,0.2)

```

\* 46 \* (21,24) (0.) ..  
 \* 47 \*  
 \* 48 \* APPLIANCE =DAY-SCHEDULE (1) (0.)  
 \* 49 \* (2,3) (0.7)  
 \* 50 \* (4,12) (0.02)  
 \* 51 \* (13,15) (0.6)  
 \* 52 \* (16,18) (0.02)  
 \* 53 \* (19,20) (0.7)  
 \* 54 \* (21,24) (0.8) ..  
 \* 55 \*  
 \* 56 \* CND\_DAY =DAY-SCHEDULE (1,24) (1.) ..  
 \* 57 \*  
 \* 58 \* FULL\_OFFD =DAY-SCHEDULE (1,24) (0.) ..  
 \* 59 \*  
 \* 60 \* appliance =DAY-SCHEDULE (1,5) (0.)  
 \* 61 \* (6,7) (0.4)  
 \* 62 \* (8,11) (0.6)  
 \* 63 \* (12,13) (0.8)  
 \* 64 \* (14,15) (0.5)  
 \* 65 \* (16,17) (0.8)  
 \* 66 \* (18,19) (0.6)  
 \* 67 \* (20,24) (0.) ..  
 \* 68 \*  
 \* 69 \* lights =DAY-SCHEDULE (1,5) (0.1)  
 \* 70 \* (6) (0.4)  
 \* 71 \* (7,18) (0.5)  
 \* 72 \* (19) (0.4)  
 \* 73 \* (20,24) (0.2) ..  
 \* 74 \*  
 \* 75 \* worship =DAY-SCHEDULE (1,6) (0.)  
 \* 76 \* (7,10) (0.2,0.7,0.8,0.5)  
 \* 77 \* (11,16) (0.2)  
 \* 78 \* (17,18) (0.1,0.3)  
 \* 79 \* (19,20) (0.5,0.2)  
 \* 80 \* (21,24) (0.) ..  
 \* 81 \*  
 \* 82 \* chapelwkdy =DAY-SCHEDULE (1,7) (0.)  
 \* 83 \* (8,18) (0.2)  
 \* 84 \* (19,20) (0.3)  
 \* 85 \* (21,24) (0.) ..  
 \* 86 \*  
 \* 87 \*  
 \* 88 \* PEOPLE =WEEK-SCHEDULE (ALL) OCCUP ..  
 \* 89 \*  
 \* 90 \* LIGHTS\_WK =WEEK-SCHEDULE (ALL) lights ..  
 \* 91 \*  
 \* 92 \* APPLI\_WK =WEEK-SCHEDULE (ALL) appliance ..  
 \* 93 \*  
 \* 94 \* CND\_WK =WEEK-SCHEDULE (ALL) CND\_DAY ..  
 \* 95 \*

\* 96 \* FULL\_OFFW =WEEK-SCHEDULE (ALL) FULL\_OFFD ..  
 \* 97 \*  
 \* 98 \* chapel =WEEK-SCHEDULE (WD) chapelwkdy  
 \* 99 \* (SAT) chapelwkdy  
 \* 100 \* (SUN) worship  
 \* 101 \* (HOL) worship ..  
 \* 102 \*  
 \* 103 \*  
 \* 104 \* \$ FULL\_ON SCHEDULE  
 \* 105 \* FULL\_ON =SCHEDULE THRU DEC 31 PEOPLE ..  
 \* 106 \*  
 \* 107 \* \$ LOADS OCCUPANCY SCHED  
 \* 108 \* OCCUPANCY =SCHEDULE THRU DEC 31 PEOPLE ..  
 \* 109 \*  
 \* 110 \* \$ LIGHTING SCHEDULE  
 \* 111 \* LIGHTS\_ON =SCHEDULE THRU DEC 31 LIGHTS\_WK ..  
 \* 112 \*  
 \* 113 \* \$ APPLIANCE SCHEDULE  
 \* 114 \* APPLI\_ON =SCHEDULE THRU DEC 31 APPLI\_WK ..  
 \* 115 \*  
 \* 116 \* \$ COND VENTIL SCHED  
 \* 117 \* CND\_SCHED =SCHEDULE THRU MAR 1 FULL\_OFFW  
 \* 118 \* THRU NOV 30 CND\_WK  
 \* 119 \* THRU DEC 31 FULL\_OFFW ..  
 \* 120 \*  
 \* 121 \* \$ LOADS OCCUPANCY SCHED  
 \* 122 \* Chapelschd =SCHEDULE THRU DEC 31 chapel ..  
 \* 123 \*  
 \* 124 \*  
 \* 125 \*  
 \* 126 \* \$ CONSTRUCTION TYPES  
 \* 127 \*  
 \* 128 \*  
 \* 129 \*  
 \* 130 \*  
 \* 131 \* \$ DOOR CONSTRUCTION  
 \* 132 \* DOORCON =CONSTRUCTION U-VALUE = 0.400 ..  
 \* 133 \* FLOOR =CONSTRUCTION U-VALUE = 0.100  
 \* 134 \* ABSORPTANCE = 1.000  
 \* 135 \* ROUGHNESS = 1 ..  
 \* 136 \* ROOFCON =CONSTRUCTION U-VALUE = 0.050 ..  
 \* 137 \* EXWALL =CONSTRUCTION U-VALUE = 0.200  
 \* 138 \* ABSORPTANCE = 0.750 ..  
 \* 139 \* INWALL =CONSTRUCTION U-VALUE = 0.500 ..  
 \* 140 \*  
 \* 141 \* GTYPE\_1 =GLASS-TYPE SHADING-COEF = 0.400  
 \* 142 \* PANES = 1  
 \* 143 \* GLASS-CONDUCTANCE = 1.130 ..  
 \* 144 \* GTYPE\_2 =GLASS-TYPE SHADING-COEF = 0.300  
 \* 145 \* PANES = 1

\* 146 \*           GLASS-CONDUCTANCE = 0.790 ..  
 \* 147 \* GTYPE\_3 =GLASS-TYPE   SHADING-COEF = 0.400  
 \* 148 \*           PANES = 1  
 \* 149 \*           GLASS-CONDUCTANCE = 0.360 ..  
 \* 150 \*  
 \* 151 \*  
 \* 152 \*  
 \* 153 \*  
 \* 154 \*           \$ SPACE DESCRIPTION  
 \* 155 \*  
 \* 156 \* CHAPEL   =SPACE   AREA = 3024.0 VOLUME = 60000.0  
 \* 157 \*           AZIMUTH = 225 TEMPERATURE = (68.)  
 \* 158 \*           ZONE-TYPE = CONDITIONED PEOPLE-SCHEDULE = Chapelschd  
 \* 159 \*           NUMBER-OF-PEOPLE = 150.0 PEOPLE-HEAT-GAIN = 660.0  
 \* 160 \*           LIGHTING-TYPE = SUS-FLUOR LIGHTING-KW = 2.57  
 \* 161 \*           LIGHTING-SCHEDULE = LIGHTS\_ON  
 \* 162 \*           EQUIP-SCHEDULE = APPLI\_ON EQUIPMENT-KW = 1.0  
 \* 163 \*           INF-METHOD = AIR-CHANGE AIR-CHANGES/HR = 0.66  
 \* 164 \*           INF-SCHEDULE = FULL\_ON ..  
 \* 165 \*  
 \* 166 \*       E-W   HEIGHT = 16.0 WIDTH = 54.0 CONS = EXWALL  
 \* 167 \*           AZIMUTH = 225 ..  
 \* 168 \*  
 \* 169 \*       E-W   HEIGHT = 16.0 WIDTH = 56.0 CONS = EXWALL  
 \* 170 \*           AZIMUTH = 135 ..  
 \* 171 \*  
 \* 172 \*       I-W   HEIGHT = 16.0 WIDTH = 54.0 CONS = INWALL  
 \* 173 \*           AZIMUTH = 225 NEXT-TO = OFFICES ..  
 \* 174 \*  
 \* 175 \*       I-W   HEIGHT = 16.0 WIDTH = 56.0 CONS = INWALL  
 \* 176 \*           AZIMUTH = 135 NEXT-TO = OFFICES ..  
 \* 177 \*  
 \* 178 \*       ROOF   HEIGHT = 54.0 WIDTH = 56.0 CONS = ROOFCON  
 \* 179 \*           AZIMUTH = 225 TILT = 0 ..  
 \* 180 \*  
 \* 181 \*       U-W   HEIGHT = 54.0 WIDTH = 56.0 CONS = FLOOR  
 \* 182 \*           AZIMUTH = 225 ..  
 \* 183 \*  
 \* 184 \*  
 \* 185 \* OFFICES   =SPACE   AREA = 7048.0 VOLUME = 63432.0  
 \* 186 \*           AZIMUTH = 225 TEMPERATURE = (68.)  
 \* 187 \*           ZONE-TYPE = CONDITIONED PEOPLE-SCHEDULE = OCCUPANCY  
 \* 188 \*           NUMBER-OF-PEOPLE = 25.0 PEOPLE-HEAT-GAIN = 660.0  
 \* 189 \*           LIGHTING-TYPE = SUS-FLUOR LIGHTING-KW = 5.99  
 \* 190 \*           LIGHTING-SCHEDULE = LIGHTS\_ON  
 \* 191 \*           EQUIP-SCHEDULE = APPLI\_ON EQUIPMENT-KW = 5.0  
 \* 192 \*           INF-METHOD = AIR-CHANGE AIR-CHANGES/HR = 0.66  
 \* 193 \*           INF-SCHEDULE = FULL\_ON ..  
 \* 194 \*  
 \* 195 \*       E-W   HEIGHT = 9.0 WIDTH = 37.0 CONS = EXWALL

\* 196 \*           AZIMUTH = 225 ..  
 \* 197 \*  
 \* 198 \*       DOOR HEIGHT = 8.0 WIDTH = 6.0 CONS = DOORCON ..  
 \* 199 \*  
 \* 200 \*       I-W HEIGHT = 9.0 WIDTH = 56.0 CONS = INWALL  
 \* 201 \*           AZIMUTH = 135 NEXT-TO = CHAPEL ..  
 \* 202 \*  
 \* 203 \*       I-W HEIGHT = 9.0 WIDTH = 54.0 CONS = INWALL  
 \* 204 \*           AZIMUTH = 225 NEXT-TO = CHAPEL ..  
 \* 205 \*  
 \* 206 \*       E-W HEIGHT = 9.0 WIDTH = 32.0 CONS = EXWALL  
 \* 207 \*           AZIMUTH = 225 ..  
 \* 208 \*  
 \* 209 \*       DOOR HEIGHT = 8.0 WIDTH = 3.0 CONS = DOORCON ..  
 \* 210 \*  
 \* 211 \*       E-W HEIGHT = 9.0 WIDTH = 65.0 CONS = EXWALL  
 \* 212 \*           AZIMUTH = 135 ..  
 \* 213 \*  
 \* 214 \*       DOOR HEIGHT = 8.0 WIDTH = 6.0 CONS = DOORCON ..  
 \* 215 \*  
 \* 216 \*       E-W HEIGHT = 9.0 WIDTH = 73.0 CONS = EXWALL  
 \* 217 \*           AZIMUTH = 45 ..  
 \* 218 \*  
 \* 219 \*       I-W HEIGHT = 9.0 WIDTH = 14.0 CONS = INWALL  
 \* 220 \*           AZIMUTH = 315 NEXT-TO = REL\_ED ..  
 \* 221 \*  
 \* 222 \*       I-W HEIGHT = 9.0 WIDTH = 16.0 CONS = INWALL  
 \* 223 \*           AZIMUTH = 45 NEXT-TO = REL\_ED ..  
 \* 224 \*  
 \* 225 \*       E-W HEIGHT = 9.0 WIDTH = 9.0 CONS = EXWALL  
 \* 226 \*           AZIMUTH = 45 ..  
 \* 227 \*  
 \* 228 \*       DOOR HEIGHT = 8.0 WIDTH = 6.0 CONS = DOORCON ..  
 \* 229 \*  
 \* 230 \*       E-W HEIGHT = 9.0 WIDTH = 42.0 CONS = EXWALL  
 \* 231 \*           AZIMUTH = 315 ..  
 \* 232 \*  
 \* 233 \*       DOOR HEIGHT = 8.0 WIDTH = 3.0 CONS = DOORCON ..  
 \* 234 \*  
 \* 235 \*       E-W HEIGHT = 9.0 WIDTH = 15.0 CONS = EXWALL  
 \* 236 \*           AZIMUTH = 45 ..  
 \* 237 \*  
 \* 238 \*       E-W HEIGHT = 9.0 WIDTH = 28.0 CONS = EXWALL  
 \* 239 \*           AZIMUTH = 315 ..  
 \* 240 \*  
 \* 241 \*       DOOR HEIGHT = 8.0 WIDTH = 9.0 CONS = DOORCON ..  
 \* 242 \*  
 \* 243 \*       E-W HEIGHT = 9.0 WIDTH = 11.0 CONS = EXWALL  
 \* 244 \*           AZIMUTH = 45 ..  
 \* 245 \*



\*246 \* E-W HEIGHT = 9.0 WIDTH = 28.0 CONS = EXWALL  
 \*247 \* AZIMUTH = 315 ..  
 \*248 \*  
 \*249 \* ROOF HEIGHT = 84.0 WIDTH = 84.0 CONS = ROOFCON  
 \*250 \* AZIMUTH = 225 TILT = 0 ..  
 \*251 \*  
 \*252 \* U-W HEIGHT = 84.0 WIDTH = 84.0 CONS = FLOOR  
 \*253 \* AZIMUTH = 225 ..  
 \*254 \*  
 \*255 \*  
 \*256 \* REL\_ED =SPACE AREA = 16159.0 VOLUME = 150000.0  
 \*257 \* AZIMUTH = 225 TEMPERATURE = (68.)  
 \*258 \* ZONE-TYPE = CONDITIONED PEOPLE-SCHEDULE = OCCUPANCY  
 \*259 \* NUMBER-OF-PEOPLE = 75.0 PEOPLE-HEAT-GAIN = 660.0  
 \*260 \* LIGHTING-TYPE = SUS-FLUOR LIGHTING-KW = 13.7  
 \*261 \* LIGHTING-SCHEDULE = LIGHTS\_ON  
 \*262 \* EQUIP-SCHEDULE = APPLI\_ON EQUIPMENT-KW = 7.0  
 \*263 \* INF-METHOD = AIR-CHANGE AIR-CHANGES/HR = 0.66  
 \*264 \* INF-SCHEDULE = FULL\_ON ..  
 \*265 \*  
 \*266 \* E-W HEIGHT = 9.0 WIDTH = 88.0 CONS = EXWALL  
 \*267 \* AZIMUTH = 225 ..  
 \*268 \*  
 \*269 \* WINDOW HEIGHT = 4.0 WIDTH = 2.0 G-T = GTYPE\_1  
 \*270 \* MULTIPLIER = 6.0 ..  
 \*271 \*  
 \*272 \* DOOR HEIGHT = 8.0 WIDTH = 3.0 CONS = DOORCON  
 \*273 \* MULTIPLIER = 3.0 ..  
 \*274 \*  
 \*275 \* E-W HEIGHT = 9.0 WIDTH = 35.0 CONS = EXWALL  
 \*276 \* AZIMUTH = 135 ..  
 \*277 \*  
 \*278 \* E-W HEIGHT = 9.0 WIDTH = 57.0 CONS = EXWALL  
 \*279 \* AZIMUTH = 225 ..  
 \*280 \*  
 \*281 \* DOOR HEIGHT = 8.0 WIDTH = 3.0 CONS = DOORCON  
 \*282 \* MULTIPLIER = 4.0 ..  
 \*283 \*  
 \*284 \* E-W HEIGHT = 9.0 WIDTH = 85.0 CONS = EXWALL  
 \*285 \* AZIMUTH = 135 ..  
 \*286 \*  
 \*287 \* WINDOW HEIGHT = 4.0 WIDTH = 2.0 G-T = GTYPE\_1  
 \*288 \* MULTIPLIER = 7.0 ..  
 \*289 \*  
 \*290 \* DOOR HEIGHT = 8.0 WIDTH = 3.0 CONS = DOORCON ..  
 \*291 \*  
 \*292 \* E-W HEIGHT = 9.0 WIDTH = 93.0 CONS = EXWALL  
 \*293 \* AZIMUTH = 45 ..  
 \*294 \*  
 \*295 \* WINDOW HEIGHT = 4.0 WIDTH = 2.0 G-T = GTYPE\_1

\* 296 \*           MULTIPLIER = 8.0 ..  
 \* 297 \*  
 \* 298 \*       DOOR HEIGHT = 8.0 WIDTH = 4.0 CONS = DOORCON  
 \* 299 \*       MULTIPLIER = 2.0 ..  
 \* 300 \*  
 \* 301 \*       I-W HEIGHT = 9.0 WIDTH = 33.0 CONS = INWALL  
 \* 302 \*       AZIMUTH = 315 NEXT-TO = CHILD\_DEV ..  
 \* 303 \*  
 \* 304 \*       I-W HEIGHT = 9.0 WIDTH = 31.0 CONS = INWALL  
 \* 305 \*       AZIMUTH = 45 NEXT-TO = CHILD\_DEV ..  
 \* 306 \*  
 \* 307 \*       DOOR HEIGHT = 8.0 WIDTH = 3.0 CONS = DOORCON  
 \* 308 \*       MULTIPLIER = 2.0 ..  
 \* 309 \*  
 \* 310 \*       E-W HEIGHT = 9.0 WIDTH = 26.0 CONS = EXWALL  
 \* 311 \*       AZIMUTH = 315 ..  
 \* 312 \*  
 \* 313 \*       WINDOW HEIGHT = 5.0 WIDTH = 6.0 G-T = GTYPE\_1  
 \* 314 \*       MULTIPLIER = 2.0 ..  
 \* 315 \*  
 \* 316 \*       E-W HEIGHT = 9.0 WIDTH = 32.0 CONS = EXWALL  
 \* 317 \*       AZIMUTH = 45 ..  
 \* 318 \*  
 \* 319 \*       DOOR HEIGHT = 8.0 WIDTH = 3.0 CONS = DOORCON  
 \* 320 \*       MULTIPLIER = 2.0 ..  
 \* 321 \*  
 \* 322 \*       E-W HEIGHT = 8.0 WIDTH = 74.0 CONS = EXWALL  
 \* 323 \*       AZIMUTH = 315 ..  
 \* 324 \*  
 \* 325 \*       WINDOW HEIGHT = 4.0 WIDTH = 2.0 G-T = GTYPE\_1  
 \* 326 \*       MULTIPLIER = 4.0 ..  
 \* 327 \*  
 \* 328 \*       WINDOW HEIGHT = 5.0 WIDTH = 6.0 G-T = GTYPE\_1 ..  
 \* 329 \*  
 \* 330 \*       DOOR HEIGHT = 8.0 WIDTH = 3.0 CONS = DOORCON  
 \* 331 \*       MULTIPLIER = 2.0 ..  
 \* 332 \*  
 \* 333 \*       ROOF HEIGHT = 127.0 WIDTH = 127.0 CONS = ROOFCON  
 \* 334 \*       AZIMUTH = 225 TILT = 0 ..  
 \* 335 \*  
 \* 336 \*       U-W HEIGHT = 127.0 WIDTH = 127.0 CONS = FLOOR  
 \* 337 \*       AZIMUTH = 225 ..  
 \* 338 \*  
 \* 339 \*       I-W HEIGHT = 9.0 WIDTH = 14.0 CONS = INWALL  
 \* 340 \*       AZIMUTH = 225 NEXT-TO = OFFICES ..  
 \* 341 \*  
 \* 342 \*       I-W HEIGHT = 9.0 WIDTH = 16.0 CONS = INWALL  
 \* 343 \*       AZIMUTH = 135 NEXT-TO = OFFICES ..  
 \* 344 \*  
 \* 345 \*

\* 346 \* CHILD\_DEV =SPACE AREA = 24360.0 VOLUME = 219240.0  
 \* 347 \* AZIMUTH = 225 TEMPERATURE = (68.)  
 \* 348 \* ZONE-TYPE = CONDITIONED PEOPLE-SCHEDULE = OCCUPANCY  
 \* 349 \* NUMBER-OF-PEOPLE = 250.0 PEOPLE-HEAT-GAIN = 660.0  
 \* 350 \* LIGHTING-TYPE = REC-FLUOR-RV LIGHTING-KW = 20.7  
 \* 351 \* LIGHTING-SCHEDULE = LIGHTS\_ON  
 \* 352 \* EQUIP-SCHEDULE = APPLI\_ON EQUIPMENT-KW = 23.0  
 \* 353 \* INF-METHOD = AIR-CHANGE AIR-CHANGES/HR = 0.66  
 \* 354 \* INF-SCHEDULE = FULL\_ON ..  
 \* 355 \*  
 \* 356 \* E-W HEIGHT = 9.0 WIDTH = 176.0 CONS = EXWALL  
 \* 357 \* AZIMUTH = 225 ..  
 \* 358 \*  
 \* 359 \* DOOR HEIGHT = 8.0 WIDTH = 3.0 CONS = DOORCON  
 \* 360 \* MULTIPLIER = 6.0 ..  
 \* 361 \*  
 \* 362 \* WINDOW HEIGHT = 4.0 WIDTH = 2.0 G-T = GTYPE\_1  
 \* 363 \* MULTIPLIER = 13.0 ..  
 \* 364 \*  
 \* 365 \* I-W HEIGHT = 9.0 WIDTH = 33.0 CONS = INWALL  
 \* 366 \* AZIMUTH = 225 NEXT-TO = REL\_ED ..  
 \* 367 \*  
 \* 368 \* E-W HEIGHT = 9.0 WIDTH = 176.0 CONS = EXWALL  
 \* 369 \* AZIMUTH = 135 ..  
 \* 370 \*  
 \* 371 \* WINDOW HEIGHT = 5.0 WIDTH = 10.0 G-T = GTYPE\_1  
 \* 372 \* MULTIPLIER = 3.0 ..  
 \* 373 \*  
 \* 374 \* WINDOW HEIGHT = 4.0 WIDTH = 2.0 G-T = GTYPE\_1  
 \* 375 \* MULTIPLIER = 6.0 ..  
 \* 376 \*  
 \* 377 \* I-W HEIGHT = 9.0 WIDTH = 33.0 CONS = INWALL  
 \* 378 \* AZIMUTH = 135 NEXT-TO = REL\_ED ..  
 \* 379 \*  
 \* 380 \* E-W HEIGHT = 9.0 WIDTH = 70.0 CONS = EXWALL  
 \* 381 \* AZIMUTH = 45 ..  
 \* 382 \*  
 \* 383 \* WINDOW HEIGHT = 4.0 WIDTH = 2.0 G-T = GTYPE\_1  
 \* 384 \* MULTIPLIER = 2.0 ..  
 \* 385 \*  
 \* 386 \* E-W HEIGHT = 9.0 WIDTH = 139.0 CONS = EXWALL  
 \* 387 \* AZIMUTH = 315 ..  
 \* 388 \*  
 \* 389 \* E-W HEIGHT = 9.0 WIDTH = 133.0 CONS = EXWALL  
 \* 390 \* AZIMUTH = 45 ..  
 \* 391 \*  
 \* 392 \* E-W HEIGHT = 9.0 WIDTH = 70.0 CONS = EXWALL  
 \* 393 \* AZIMUTH = 315 ..  
 \* 394 \*  
 \* 395 \* ROOF HEIGHT = 156.0 WIDTH = 156.0 CONS = ROOFCON

\* 396 \*           AZIMUTH = 225 TILT = 0 ..  
 \* 397 \*  
 \* 398 \*           U-W   HEIGHT = 156.0 WIDTH = 156.0 CONS = FLOOR  
 \* 399 \*           AZIMUTH = 225 ..  
 \* 400 \*  
 \* 401 \*  
 \* 402 \* END ..  
 \* 403 \* COMPUTE LOADS ..  
 \* 404 \*  
 \* 405 \* INPUT SYSTEMS ..

# SDL PROCESSOR INPUT DATA

3/21/1995 15:249 SDL RUN 1

\* 406 \*  
 \* 407 \*  
 \* 408 \*       \$-----\$  
 \* 409 \*       \$EZ-DOE SYSTEMS INPUT\$  
 \* 410 \*       \$-----\$  
 \* 411 \*  
 \* 412 \*       \$ GENERAL PROJECT DATA  
 \* 413 \*  
 \* 414 \* TITLE LINE-1 \* EMC ENGINEERS INC. \*  
 \* 415 \*   LINE-2 \*EZDOE - ELITE SOFTWARE DEVELOPMENT INC\*  
 \* 416 \*   LINE-3 \* DENVER, CO 80227 \*  
 \* 417 \*  
 \* 418 \*   LINE-4 \*BLDG 10785, CHAPEL, REL ED, CHILD CARE \*  
 \* 419 \*   LINE-5 \*BASE MODEL                   \*..  
 \* 420 \* ABORT       ERRORS ..  
 \* 421 \* DIAGNOSTIC   WARNINGS ..  
 \* 422 \* SYSTEMS-REPORT SUMMARY=(SS-A,SS-B,SS-C,SS-F,SS-H,SS-K,SS-O) ..  
 \* 423 \*  
 \* 424 \*       \$ SCHEDULES  
 \* 425 \*  
 \* 426 \* D\_FULL   =DAY-SCHEDULE (1,24) (1.) ..  
 \* 427 \* D\_OFF   =DAY-SCHEDULE (1,24) (0.) ..  
 \* 428 \* HEAT\_68\_D =DAY-SCHEDULE (1,24) (74.) ..  
 \* 429 \*  
 \* 430 \* W\_FULL   =WEEK-SCHEDULE (ALL) D\_FULL ..  
 \* 431 \*  
 \* 432 \* W\_OFF   =WEEK-SCHEDULE (ALL) D\_OFF ..  
 \* 433 \*  
 \* 434 \* HEAT\_68\_W =WEEK-SCHEDULE (ALL) HEAT\_68\_D ..  
 \* 435 \*  
 \* 436 \*  
 \* 437 \* FULL\_ON   =SCHEDULE THRU DEC 31 W\_FULL ..

```

* 438 *
* 439 * FULL_OFF =SCHEDULE THRU DEC 31 W_OFF ..
* 440 *
* 441 * $ HEATING TEMPERATURE SET
* 442 * HEAT_68 =SCHEDULE THRU DEC 31 HEAT_68_W ..
* 443 *
* 444 *
* 445 *
* 446 *      $ ZONE DESCRIPTION
* 447 *
* 448 * CHAPEL =ZONE  DESIGN-HEAT-T = 68.0 DESIGN-COOL-T = 85.0
* 449 *      HEAT-TEMP-SCH = HEAT_68 ZONE-TYPE = CONDITIONED
* 450 *      THERMOSTAT-TYPE = PROPORTIONAL
* 451 *      BASEBOARD-CTRL = THERMOSTATIC
* 452 *      BASEBOARD-RATING = -53724. ASSIGNED-CFM = 4100.
* 453 *      OUTSIDE-AIR-CFM = 2000. SIZING-OPTION = FROM-LOADS ..
* 454 *
* 455 * OFFICES =ZONE  DESIGN-HEAT-T = 68.0 DESIGN-COOL-T = 85.0
* 456 *      HEAT-TEMP-SCH = HEAT_68 ZONE-TYPE = CONDITIONED
* 457 *      THERMOSTAT-TYPE = PROPORTIONAL
* 458 *      BASEBOARD-CTRL = THERMOSTATIC
* 459 *      BASEBOARD-RATING = -125356. ASSIGNED-CFM = 2900.
* 460 *      OUTSIDE-AIR-CFM = 900. SIZING-OPTION = FROM-LOADS ..
* 461 *
* 462 * REL_ED =ZONE  DESIGN-HEAT-T = 68.0 DESIGN-COOL-T = 85.0
* 463 *      HEAT-TEMP-SCH = HEAT_68 ZONE-TYPE = CONDITIONED
* 464 *      THERMOSTAT-TYPE = PROPORTIONAL
* 465 *      BASEBOARD-CTRL = THERMOSTATIC
* 466 *      BASEBOARD-RATING = -286528. ASSIGNED-CFM = 8075.
* 467 *      OUTSIDE-AIR-CFM = 1200. SIZING-OPTION = FROM-LOADS ..
* 468 *
* 469 * CHILD_DEV =ZONE  DESIGN-HEAT-T = 68.0 DESIGN-COOL-T = 85.0
* 470 *      HEAT-TEMP-SCH = HEAT_68 ZONE-TYPE = CONDITIONED
* 471 *      THERMOSTAT-TYPE = PROPORTIONAL
* 472 *      BASEBOARD-CTRL = THERMOSTATIC
* 473 *      BASEBOARD-RATING = -429792. ASSIGNED-CFM = 14950.
* 474 *      OUTSIDE-AIR-CFM = 3850. SIZING-OPTION = FROM-LOADS
* 475 *      EXHAUST-CFM = 2050.0 ..
* 476 *
* 477 *
* 478 *      $ SYSTEM DESCRIPTION
* 479 *
* 480 * AHU_1 =SYSTEM  SYSTEM-TYPE = HVSYS
* 481 *      MAX-SUPPLY-T = 120.0 HEATING-SCHEDULE = FULL_ON
* 482 *      MIN-HUMIDITY = 30.0 ECONO-LIMIT-T = 65.0
* 483 *      ECONO-LOW-LIMIT = 55.0 HEAT-CONTROL = COLDEST
* 484 *      SUPPLY-CFM = 4100. RETURN-CFM = 2100.
* 485 *      RATED-CFM = 4100. MIN-OUTSIDE-AIR = 0.49
* 486 *      SUPPLY-DELTA-T = 2.4 SUPPLY-KW = 0.0011
* 487 *      MOTOR-PLACEMENT = OUTSIDE-AIRFLOW

```

```

* 488 *      NIGHT-CYCLE-CTRL = STAY-OFF NIGHT-VENT-DT = 0.0
* 489 *      HEATING-CAPACITY = -235700. FURNACE-AUX = 0.
* 490 *      ZONE-NAMES = (CHAPEL) ..
* 491 *
* 492 * AHU_2  =SYSTEM  SYSTEM-TYPE = HVSYS
* 493 *      MAX-SUPPLY-T = 120.0 HEATING-SCHEDULE = FULL_ON
* 494 *      MIN-HUMIDITY = 30.0 ECONO-LIMIT-T = 66.0
* 495 *      ECONO-LOW-LIMIT = 55.0 HEAT-CONTROL = COLDEST
* 496 *      SUPPLY-CFM = 2900. RETURN-CFM = 2000.
* 497 *      RATED-CFM = 2900. MIN-OUTSIDE-AIR = 0.31
* 498 *      SUPPLY-DELTA-T = 2.4 SUPPLY-KW = 0.0011
* 499 *      MOTOR-PLACEMENT = OUTSIDE-AIRFLOW
* 500 *      NIGHT-CYCLE-CTRL = STAY-OFF NIGHT-VENT-DT = 0.0
* 501 *      HEATING-CAPACITY = -90500. FURNACE-AUX = 0.
* 502 *      ZONE-NAMES = (OFFICES) ..
* 503 *
* 504 * AHU_3-5 =SYSTEM  SYSTEM-TYPE = HVSYS
* 505 *      MAX-SUPPLY-T = 120.0 HEATING-SCHEDULE = FULL_ON
* 506 *      MIN-HUMIDITY = 30.0 ECONO-LIMIT-T = 65.0
* 507 *      ECONO-LOW-LIMIT = 55.0 HEAT-CONTROL = COLDEST
* 508 *      SUPPLY-CFM = 8075. RETURN-CFM = 6875.
* 509 *      RATED-CFM = 8075. MIN-OUTSIDE-AIR = 0.18
* 510 *      SUPPLY-DELTA-T = 2.4 SUPPLY-KW = 0.0011
* 511 *      MOTOR-PLACEMENT = OUTSIDE-AIRFLOW
* 512 *      NIGHT-CYCLE-CTRL = STAY-OFF NIGHT-VENT-DT = 0.0
* 513 *      HEATING-CAPACITY = -202900. FURNACE-AUX = 0.
* 514 *      ZONE-NAMES = (REL_ED) ..
* 515 *
* 516 * AHU_6-10 =SYSTEM  SYSTEM-TYPE = HVSYS
* 517 *      MAX-SUPPLY-T = 120.0 HEATING-SCHEDULE = FULL_ON
* 518 *      MIN-HUMIDITY = 30.0 ECONO-LIMIT-T = 65.0
* 519 *      ECONO-LOW-LIMIT = 55.0 HEAT-CONTROL = COLDEST
* 520 *      SUPPLY-CFM = 14950. RETURN-CFM = 11100.
* 521 *      RATED-CFM = 14950. MIN-OUTSIDE-AIR = 0.26
* 522 *      RECOVERY-EFF = 0.33 SUPPLY-DELTA-T = 2.4
* 523 *      SUPPLY-KW = 0.0011
* 524 *      MOTOR-PLACEMENT = OUTSIDE-AIRFLOW
* 525 *      NIGHT-CYCLE-CTRL = STAY-OFF NIGHT-VENT-DT = 0.0
* 526 *      HEATING-CAPACITY = -585500. FURNACE-AUX = 0.
* 527 *      ZONE-NAMES = (CHILD_DEV) ..
* 528 *
* 529 *
* 530 *      $ HOURLY REPORT DESCRIPTION
* 531 *
* 532 * SYST1  =REPORT-BLOCK VARIABLE-TYPE = AHU_1
* 533 *      VARIABLE-LIST = (5,7,9,10,17,20) ..
* 534 * SYST2  =REPORT-BLOCK VARIABLE-TYPE = CHAPEL
* 535 *      VARIABLE-LIST = (6) ..
* 536 * REP1   = HOURLY-REPORT REPORT-SCHEDULE = FULL_ON
* 537 *      REPORT-BLOCK = (SYST1,SYST2)

```

\* 538 \* ..  
\* 539 \* END ..  
\* 540 \* COMPUTE SYSTEMS ..  
\* 541 \*  
\* 542 \* INPUT PLANT ..

PDL PROCESSOR INPUT DATA

3/21/1995 15:249 PDL RUN 1

\* 543 \*  
\* 544 \*  
\* 545 \* \$-----\$  
\* 546 \* \$EZ-DOE PLANTS INPUT\$  
\* 547 \* \$-----\$  
\* 548 \*  
\* 549 \* \$ GENERAL PROJECT DATA  
\* 550 \*  
\* 551 \* TITLE LINE-1 \* EMC ENGINEERS INC. \*  
\* 552 \* LINE-2 \*EZDOE - ELITE SOFTWARE DEVELOPMENT INC\*  
\* 553 \* LINE-3 \* DENVER, CO 80227 \*  
\* 554 \*  
\* 555 \* LINE-4 \*BLDG 10785, CHAPEL, REL ED, CHILD CARE \*  
\* 556 \* LINE-5 \*BASE MODEL \*..  
\* 557 \*  
\* 558 \* ABORT ERRORS ..  
\* 559 \* DIAGNOSTIC WARNINGS ..  
\* 560 \* PLANT-REPORT SUMMARY=(PS-A,PS-B,PS-H,BEPS)  
\* 561 \* ..  
\* 562 \*  
\* 563 \* \$ SCHEDULES  
\* 564 \*  
\* 565 \* DAY\_ON =DAY-SCHEDULE (1,7) (0.)  
\* 566 \* (8,18) (1.)  
\* 567 \* (19,24) (0.) ..  
\* 568 \*  
\* 569 \*  
\* 570 \* FULL\_ON =WEEK-SCHEDULE (ALL) DAY\_ON ..  
\* 571 \*  
\* 572 \*  
\* 573 \* \$ heating plant schedule  
\* 574 \* heating =SCHEDULE THRU DEC 31 FULL\_ON ..  
\* 575 \*  
\* 576 \*  
\* 577 \*  
\* 578 \* \$ EQUIPMENT DESCRIPTION  
\* 579 \*

\* 580 \* DHW       =PLANT-EQUIPMENT TYPE = HTANK-STORAGE  
 \* 581 \*            SIZE = 0.7 ..  
 \* 582 \*  
 \* 583 \* HEATEXCHAN =PLANT-EQUIPMENT TYPE = HTANK-STORAGE  
 \* 584 \*            SIZE = 2. ..  
 \* 585 \*  
 \* 586 \* PLANT-PARAMETERS   MAKEUP-WTR-T = 50. STM-BOILER-HIR = 0.76  
 \* 587 \*            HW-BOILER-HIR = 1.27 CHILLER-CONTROL = STANDBY  
 \* 588 \*            OPEN-REC-COND-TYPE = AIR HERM-REC-COND-TYPE = AIR  
 \* 589 \*            COMP-TO-TWR-WTR = 2.77 CCIRC-HEAD = 100.0  
 \* 590 \*            HCIRC-HEAD = 40.0 ..  
 \* 591 \*  
 \* 592 \*  
 \* 593 \* PART-LOAD-RATIO TYPE = HW-BOILER  
 \* 594 \*            MIN-RATIO    = 0.2500 MAX-RATIO    = 1.0000  
 \* 595 \*            OPERATING-RATIO = 1.0000 ELEC-INPUT-RATIO = 0.0220 ..  
 \* 596 \*  
 \* 597 \* ENERGY-RESOURCE   RESOURCE = STEAM SOURCE-SITE-EFF = 1.000 ..  
 \* 598 \* ENERGY-RESOURCE   RESOURCE = ELECTRICITY ..  
 \* 599 \*  
 \* 600 \* ENERGY-STORAGE   HEAT-STORE-RATE = 2.75 HEAT-SUPPLY-RATE = 2.75  
 \* 601 \*            HTANK-BASE-T = 210.0 HTANK-T-RANGE = 15.6  
 \* 602 \*            HEAT-STORE-SCH = heating ..  
 \* 603 \*  
 \* 604 \*   HEAT-RECOVERY  
 \* 605 \*       SUPPLY-1 = (HTANK-STORAGE)  
 \* 606 \*       DEMAND-1 = (SPACE-HEAT) ..  
 \* 607 \*  
 \* 608 \*  
 \* 609 \*  
 \* 610 \* END ..  
 \* 611 \* COMPUTE PLANT ..  
 \* 612 \* STOP ..



ENERGY TYPE IN SITE MBTU-	STEAM	ELECTRICITY	RECOVERED
CATEGORY OF USE			
SPACE HEAT	4632.17	0.00	0.00
SPACE COOL	0.00	0.00	0.00
HVAC AUX	0.00	1030.36	0.00
DOM HOT WTR	0.00	0.00	0.00
AUX SOLAR	0.00	0.00	0.00
LIGHTS	0.00	444.19	0.00
VERT TRANS	0.00	0.00	0.00
MISC EQUIP	0.00	385.70	0.00
	-----	-----	-----
TOTAL	4632.17	1860.25	0.00

TOTAL SITE ENERGY 6492.33 MBTU 128.3 KBTU/SQFT-YR GROSS-AREA 128.3 KBTU/SQFT-YR NET-AREA  
 TOTAL SOURCE ENERGY 10218.21 MBTU 202.0 KBTU/SQFT-YR GROSS-AREA 202.0 KBTU/SQFT-YR NET-AREA

PERCENT OF HOURS ANY SYSTEM ZONE OUTSIDE OF THROTTLING RANGE = 0.1  
 PERCENT OF HOURS ANY PLANT LOAD NOT SATISFIED = 0.0

NOTE ELECTRICITY AND/OR FUEL USED TO GENERATE ELECTRICITY IS APPORTIONED BASED  
 ON THE YEARLY DEMAND. ALL OTHER ENERGY TYPES ARE APPORTIONED HOURLY.

MO	UTILITY- STEAM	ELECTRICITY
JAN	TOTAL(MBTU) 882.285	158.313
	PEAK(KBTU) 2152.851	289.657
	DY/HR 5/12	31/17
FEB	TOTAL(MBTU) 693.185	142.992
	PEAK(KBTU) 1734.569	289.657
	DY/HR 5/ 8	28/17
MAR	TOTAL(MBTU) 693.636	158.313
	PEAK(KBTU) 1562.36	289.657
	DY/HR 26/ 8	31/17
APR	TOTAL(MBTU) 406.797	153.19
	PEAK(KBTU) 1163.094	289.657
	DY/HR 3/ 5	30/17
MAY	TOTAL(MBTU) 245.185	158.107
	PEAK(KBTU) 980.611	289.657
	DY/HR 16/ 8	31/17
JUN	TOTAL(MBTU) 75.123	152.461
	PEAK(KBTU) 619.733	289.657
	DY/HR 8/ 5	29/16
JUL	TOTAL(MBTU) 35.78	156.998
	PEAK(KBTU) 467.74	289.657
	DY/HR 25/ 4	31/17
AUG	TOTAL(MBTU) 54.648	157.309
	PEAK(KBTU) 798.923	289.657
	DY/HR 6/24	31/17
SEP	TOTAL(MBTU) 124.743	152.694
	PEAK(KBTU) 752.971	289.657
	DY/HR 24/ 5	30/17
OCT	TOTAL(MBTU) 270.527	158.255
	PEAK(KBTU) 891.434	289.657
	DY/HR 21/ 5	31/17
NOV	TOTAL(MBTU) 452.448	153.206
	PEAK(KBTU) 1204.603	289.657
	DY/HR 26/18	30/17

DEC	TOTAL(MBTU)	697.821	158.313
	PEAK(KBTU)	1596.793	289.657
	DY/HR	23/ 8	31/17
	ONE YEAR	4632.177	1860.15
	USE/PEAK	2152.851	289.657

**COMPUTER SIMULATIONS**  
**BUILDING 10785**

**RUN 1 - SCHEDULE START/STOP AND NIGHT SETBACK**

# INPUT LOADS ..

```

$-----$
$ E Z - D O E   L O A D S   I N P U T $
$-----$

```

## \$ GENERAL PROJECT DATA

```

TITLE  LINE-1 *   EMC      ENGINEERS      INC.      *
        LINE-2 *EZDOE - ELITE SOFTWARE DEVELOPMENT INC*
        LINE-3 *   DENVER,      CO      80227      *
        LINE-4 *BLDG 10785, CHAPEL, REL ED, CHILD CARE *
        LINE-5 *MODEL WITH SET BACK      * ..

```

```

ABORT      ERRORS ..
DIAGNOSTIC WARNINGS ..
LOADS-REPORT SUMMARY=(LS-A,LS-B,LS-C,LS-D,LS-E,LS-F,LS-K) ..
BUILDING-LOCATION LATITUDE = 44.0
                ALTITUDE = 655.
                AZIMUTH = -130.
                TIME-ZONE = 5
                GROSS-AREA = 50591
                HOLIDAY = NO
                SHIELDING-COEF = 0.29
                X-REF = 0.0
                Y-REF = 0.0 ..
RUN-PERIOD  JAN 1 1994 THRU DEC 31 1994 ..

```

## \$ SCHEDULES

```

LIGHTS      =DAY-SCHEDULE (1,2) (1.)
                (3,11) (0.5)
                (12,13) (0.6)
                (14,24) (1.) ..

OCCUP        =DAY-SCHEDULE (1,5) (0.)
                (6,10) (0.1,0.5,0.9,0.8,0.5)
                (11,14) (0.7,0.9,0.8,0.4)
                (15,16) (0.3)
                (17,18) (0.5,0.9)
                (19,20) (0.7,0.2)
                (21,24) (0.) ..

APPLIANCE    =DAY-SCHEDULE (1) (0.)
                (2,3) (0.7)
                (4,12) (0.02)
                (13,15) (0.6)
                (16,18) (0.02)
                (19,20) (0.7)
                (21,24) (0.8) ..

CND_DAY      =DAY-SCHEDULE (1,24) (1.) ..

FULL_OFFD    =DAY-SCHEDULE (1,24) (0.) ..

appliance    =DAY-SCHEDULE (1,5) (0.)
                (6,7) (0.4)
                (8,11) (0.6)
                (12,13) (0.8)
                (14,15) (0.5)
                (16,17) (0.8)
                (18,19) (0.6)
                (20,24) (0.) ..

lights       =DAY-SCHEDULE (1,5) (0.1)
                (6) (0.4)
                (7,18) (0.5)
                (19) (0.4)
                (20,24) (0.2) ..

worship      =DAY-SCHEDULE (1,6) (0.)
                (7,10) (0.2,0.7,0.8,0.5)
                (11,16) (0.2)
                (17,18) (0.1,0.3)
                (19,20) (0.5,0.2)
                (21,24) (0.) ..

chapelwkdy   =DAY-SCHEDULE (1,7) (0.)
                (8,18) (0.2)
                (19,20) (0.3)
                (21,24) (0.) ..

PEOPLE       =WEEK-SCHEDULE (ALL) OCCUP ..

LIGHTS_WK    =WEEK-SCHEDULE (ALL) lights ..

APPLI_WK     =WEEK-SCHEDULE (ALL) appliance ..

CND_WK       =WEEK-SCHEDULE (ALL) CND_DAY ..

FULL_OFFW    =WEEK-SCHEDULE (ALL) FULL_OFFD ..

chapel       =WEEK-SCHEDULE (WD) chapelwkdy
                (SAT) chapelwkdy
                (SUN) worship
                (HOL) worship ..

```

```

$ FULL_ON SCHEDULE
FULL_ON      =SCHEDULE THRU DEC 31 PEOPLE ..

```

```

$ LOADS OCCUPANCY SCHED
OCCUPANCY    =SCHEDULE THRU DEC 31 PEOPLE ..

```

\$ LIGHTING SCHEDULE  
 LIGHTS\_ON =SCHEDULE THRU DEC 31 LIGHTS\_WK ..

\$ APPLIANCE SCHEDULE  
 APPLI\_ON =SCHEDULE THRU DEC 31 APPLI\_WK ..

\$ COND VENTIL SCHED  
 CND\_SCHED =SCHEDULE THRU MAR 1 FULL OFFW  
 THRU NOV 30 CND\_WK  
 THRU DEC 31 FULL\_OFFW ..

\$ LOADS OCCUPANCY SCHED  
 Chapelschd =SCHEDULE THRU DEC 31 chapel ..

# \$ CONSTRUCTION TYPES

\$ DOOR CONSTRUCTION  
 DOORCON =CONSTRUCTION U-VALUE = 0.400 ..  
 FLOOR =CONSTRUCTION U-VALUE = 0.100  
 ABSORPTANCE = 1.000  
 ROUGHNESS = 1 ..

ROOFCON =CONSTRUCTION U-VALUE = 0.050 ..  
 EXWALL =CONSTRUCTION U-VALUE = 0.200  
 ABSORPTANCE = 0.750 ..

INWALL =CONSTRUCTION U-VALUE = 0.500 ..

GTYPE\_1 =GLASS-TYPE SHADING-COEF = 0.400  
 PANES = 1  
 GLASS-CONDUCTANCE = 1.130 ..

GTYPE\_2 =GLASS-TYPE SHADING-COEF = 0.300  
 PANES = 1  
 GLASS-CONDUCTANCE = 0.790 ..

GTYPE\_3 =GLASS-TYPE SHADING-COEF = 0.400  
 PANES = 1  
 GLASS-CONDUCTANCE = 0.360 ..

# \$ SPACE DESCRIPTION

CHAPEL =SPACE AREA = 3024.0 VOLUME = 60000.0  
 AZIMUTH = 225 TEMPERATURE = (68.)  
 ZONE-TYPE = CONDITIONED PEOPLE-SCHEDULE = Chapelschd  
 NUMBER-OF-PEOPLE = 150.0 PEOPLE-HEAT-GAIN = 660.0  
 LIGHTING-TYPE = SUS-FLUOR LIGHTING-KW = 2.57  
 LIGHTING-SCHEDULE = LIGHTS\_ON  
 EQUIP-SCHEDULE = APPLI\_ON EQUIPMENT-KW = 1.0  
 INF-METHOD = AIR-CHANGE AIR-CHANGES/HR = 0.66  
 INF-SCHEDULE = FULL\_ON ..

E-W HEIGHT = 16.0 WIDTH = 54.0 CONS = EXWALL  
 AZIMUTH = 225 ..

E-W HEIGHT = 16.0 WIDTH = 56.0 CONS = EXWALL  
 AZIMUTH = 135 ..

I-W HEIGHT = 16.0 WIDTH = 54.0 CONS = INWALL  
 AZIMUTH = 225 NEXT-TO = OFFICES ..

I-W HEIGHT = 16.0 WIDTH = 56.0 CONS = INWALL  
 AZIMUTH = 135 NEXT-TO = OFFICES ..

ROOF HEIGHT = 54.0 WIDTH = 56.0 CONS = ROOFCON  
 AZIMUTH = 225 TILT = 0 ..

U-W HEIGHT = 54.0 WIDTH = 56.0 CONS = FLOOR  
 AZIMUTH = 225 ..

OFFICES =SPACE AREA = 7048.0 VOLUME = 63432.0  
 AZIMUTH = 225 TEMPERATURE = (68.)  
 ZONE-TYPE = CONDITIONED PEOPLE-SCHEDULE = OCCUPANCY  
 NUMBER-OF-PEOPLE = 25.0 PEOPLE-HEAT-GAIN = 660.0  
 LIGHTING-TYPE = SUS-FLUOR LIGHTING-KW = 5.99  
 LIGHTING-SCHEDULE = LIGHTS\_ON  
 EQUIP-SCHEDULE = APPLI\_ON EQUIPMENT-KW = 5.0  
 INF-METHOD = AIR-CHANGE AIR-CHANGES/HR = 0.66  
 INF-SCHEDULE = FULL\_ON ..

E-W HEIGHT = 9.0 WIDTH = 37.0 CONS = EXWALL  
 AZIMUTH = 225 ..

DOOR HEIGHT = 8.0 WIDTH = 6.0 CONS = DOORCON ..

I-W HEIGHT = 9.0 WIDTH = 56.0 CONS = INWALL  
 AZIMUTH = 135 NEXT-TO = CHAPEL ..

I-W HEIGHT = 9.0 WIDTH = 54.0 CONS = INWALL  
 AZIMUTH = 225 NEXT-TO = CHAPEL ..

E-W HEIGHT = 9.0 WIDTH = 32.0 CONS = EXWALL  
 AZIMUTH = 225 ..

DOOR HEIGHT = 8.0 WIDTH = 3.0 CONS = DOORCON ..

E-W HEIGHT = 9.0 WIDTH = 65.0 CONS = EXWALL  
 AZIMUTH = 135 ..

DOOR HEIGHT = 8.0 WIDTH = 6.0 CONS = DOORCON ..

E-W HEIGHT = 9.0 WIDTH = 73.0 CONS = EXWALL  
 AZIMUTH = 45 ..

I-W HEIGHT = 9.0 WIDTH = 14.0 CONS = INWALL  
 AZIMUTH = 315 NEXT-TO = REL\_ED ..  
 I-W HEIGHT = 9.0 WIDTH = 16.0 CONS = INWALL  
 AZIMUTH = 45 NEXT-TO = REL\_ED ..  
 E-W HEIGHT = 9.0 WIDTH = 9.0 CONS = EXWALL  
 AZIMUTH = 45 ..  
 DOOR HEIGHT = 8.0 WIDTH = 6.0 CONS = DOORCON ..  
 E-W HEIGHT = 9.0 WIDTH = 42.0 CONS = EXWALL  
 AZIMUTH = 315 ..  
 DOOR HEIGHT = 8.0 WIDTH = 3.0 CONS = DOORCON ..  
 E-W HEIGHT = 9.0 WIDTH = 15.0 CONS = EXWALL  
 AZIMUTH = 45 ..  
 E-W HEIGHT = 9.0 WIDTH = 28.0 CONS = EXWALL  
 AZIMUTH = 315 ..  
 DOOR HEIGHT = 8.0 WIDTH = 9.0 CONS = DOORCON ..  
 E-W HEIGHT = 9.0 WIDTH = 11.0 CONS = EXWALL  
 AZIMUTH = 45 ..  
 E-W HEIGHT = 9.0 WIDTH = 28.0 CONS = EXWALL  
 AZIMUTH = 315 ..  
 ROOF HEIGHT = 84.0 WIDTH = 84.0 CONS = ROOFCON  
 AZIMUTH = 225 TILT = 0 ..  
 U-W HEIGHT = 84.0 WIDTH = 84.0 CONS = FLOOR  
 AZIMUTH = 225 ..

REL\_ED =SPACE AREA = 16159.0 VOLUME = 150000.0  
 AZIMUTH = 225 TEMPERATURE = (68.)  
 ZONE-TYPE = CONDITIONED PEOPLE-SCHEDULE = OCCUPANCY  
 NUMBER-OF-PEOPLE = 75.0 PEOPLE-HEAT-GAIN = 660.0  
 LIGHTING-TYPE = SUS-FLUOR LIGHTING-KW = 13.7  
 LIGHTING-SCHEDULE = LIGHTS\_ON  
 EQUIP-SCHEDULE = APPLI\_ON EQUIPMENT-KW = 7.0  
 INF-METHOD = AIR-CHANGE AIR-CHANGES/HR = 0.66  
 INF-SCHEDULE = FULL\_ON ..

E-W HEIGHT = 9.0 WIDTH = 88.0 CONS = EXWALL  
 AZIMUTH = 225 ..  
 WINDOW HEIGHT = 4.0 WIDTH = 2.0 G-T = GTYPE\_1  
 MULTIPLIER = 6.0 ..  
 DOOR HEIGHT = 8.0 WIDTH = 3.0 CONS = DOORCON  
 MULTIPLIER = 3.0 ..  
 E-W HEIGHT = 9.0 WIDTH = 35.0 CONS = EXWALL  
 AZIMUTH = 135 ..  
 E-W HEIGHT = 9.0 WIDTH = 57.0 CONS = EXWALL  
 AZIMUTH = 225 ..  
 DOOR HEIGHT = 8.0 WIDTH = 3.0 CONS = DOORCON  
 MULTIPLIER = 4.0 ..  
 E-W HEIGHT = 9.0 WIDTH = 85.0 CONS = EXWALL  
 AZIMUTH = 135 ..  
 WINDOW HEIGHT = 4.0 WIDTH = 2.0 G-T = GTYPE\_1  
 MULTIPLIER = 7.0 ..  
 DOOR HEIGHT = 8.0 WIDTH = 3.0 CONS = DOORCON ..  
 E-W HEIGHT = 9.0 WIDTH = 93.0 CONS = EXWALL  
 AZIMUTH = 45 ..  
 WINDOW HEIGHT = 4.0 WIDTH = 2.0 G-T = GTYPE\_1  
 MULTIPLIER = 8.0 ..  
 DOOR HEIGHT = 8.0 WIDTH = 4.0 CONS = DOORCON  
 MULTIPLIER = 2.0 ..  
 I-W HEIGHT = 9.0 WIDTH = 33.0 CONS = INWALL  
 AZIMUTH = 315 NEXT-TO = CHILD\_DEV ..  
 I-W HEIGHT = 9.0 WIDTH = 31.0 CONS = INWALL  
 AZIMUTH = 45 NEXT-TO = CHILD\_DEV ..  
 DOOR HEIGHT = 8.0 WIDTH = 3.0 CONS = DOORCON  
 MULTIPLIER = 2.0 ..  
 E-W HEIGHT = 9.0 WIDTH = 26.0 CONS = EXWALL  
 AZIMUTH = 315 ..  
 WINDOW HEIGHT = 5.0 WIDTH = 6.0 G-T = GTYPE\_1  
 MULTIPLIER = 2.0 ..  
 E-W HEIGHT = 9.0 WIDTH = 32.0 CONS = EXWALL  
 AZIMUTH = 45 ..  
 DOOR HEIGHT = 8.0 WIDTH = 3.0 CONS = DOORCON  
 MULTIPLIER = 2.0 ..  
 E-W HEIGHT = 8.0 WIDTH = 74.0 CONS = EXWALL  
 AZIMUTH = 315 ..  
 WINDOW HEIGHT = 4.0 WIDTH = 2.0 G-T = GTYPE\_1  
 MULTIPLIER = 4.0 ..

```

WINDOW HEIGHT = 5.0 WIDTH = 6.0 G-T = GTYPE_1 ..
DOOR HEIGHT = 8.0 WIDTH = 3.0 CONS = DOORCON
MULTIPLIER = 2.0 ..
ROOF HEIGHT = 127.0 WIDTH = 127.0 CONS = ROOFCON
AZIMUTH = 225 TILT = 0 ..
U-W HEIGHT = 127.0 WIDTH = 127.0 CONS = FLOOR
AZIMUTH = 225 ..
I-W HEIGHT = 9.0 WIDTH = 14.0 CONS = INWALL
AZIMUTH = 225 NEXT-TO = OFFICES ..
I-W HEIGHT = 9.0 WIDTH = 16.0 CONS = INWALL
AZIMUTH = 135 NEXT-TO = OFFICES ..

CHILD_DEV =SPACE AREA = 24360.0 VOLUME = 219240.0
AZIMUTH = 225 TEMPERATURE = (68.)
ZONE-TYPE = CONDITIONED PEOPLE-SCHEDULE = OCCUPANCY
NUMBER-OF-PEOPLE = 250.0 PEOPLE-HEAT-GAIN = 660.0
LIGHTING-TYPE = REC-FLUOR-RV LIGHTING-KW = 20.7
LIGHTING-SCHEDULE = LIGHTS ON
EQUIP-SCHEDULE = APPLI ON EQUIPMENT-KW = 23.0
INF-METHOD = AIR-CHANGE AIR-CHANGES/HR = 0.66
INF-SCHEDULE = FULL_ON ..

E-W HEIGHT = 9.0 WIDTH = 176.0 CONS = EXWALL
AZIMUTH = 225 ..
DOOR HEIGHT = 8.0 WIDTH = 3.0 CONS = DOORCON
MULTIPLIER = 6.0 ..
WINDOW HEIGHT = 4.0 WIDTH = 2.0 G-T = GTYPE_1
MULTIPLIER = 13.0 ..
I-W HEIGHT = 9.0 WIDTH = 33.0 CONS = INWALL
AZIMUTH = 225 NEXT-TO = REL_ED ..
E-W HEIGHT = 9.0 WIDTH = 176.0 CONS = EXWALL
AZIMUTH = 135 ..
WINDOW HEIGHT = 5.0 WIDTH = 10.0 G-T = GTYPE_1
MULTIPLIER = 3.0 ..
WINDOW HEIGHT = 4.0 WIDTH = 2.0 G-T = GTYPE_1
MULTIPLIER = 6.0 ..
I-W HEIGHT = 9.0 WIDTH = 33.0 CONS = INWALL
AZIMUTH = 135 NEXT-TO = REL_ED ..
E-W HEIGHT = 9.0 WIDTH = 70.0 CONS = EXWALL
AZIMUTH = 45 ..
WINDOW HEIGHT = 4.0 WIDTH = 2.0 G-T = GTYPE_1
MULTIPLIER = 2.0 ..
E-W HEIGHT = 9.0 WIDTH = 139.0 CONS = EXWALL
AZIMUTH = 315 ..
E-W HEIGHT = 9.0 WIDTH = 133.0 CONS = EXWALL
AZIMUTH = 45 ..
E-W HEIGHT = 9.0 WIDTH = 70.0 CONS = EXWALL
AZIMUTH = 315 ..
ROOF HEIGHT = 156.0 WIDTH = 156.0 CONS = ROOFCON
AZIMUTH = 225 TILT = 0 ..
U-W HEIGHT = 156.0 WIDTH = 156.0 CONS = FLOOR
AZIMUTH = 225 ..

END ..
COMPUTE LOADS ..
INPUT SYSTEMS ..

```

```

$-----$
$ E Z - D O E   S Y S T E M S   I N P U T $
$-----$

```

#### \$ GENERAL PROJECT DATA

```

TITLE LINE-1 * EMC ENGINEERS INC. *
LINE-2 *EZDOE - ELITE SOFTWARE DEVELOPMENT INC*
LINE-3 * DENVER, CO 80227 *
LINE-4 *BLDG 10785, CHAPEL, REL ED, CHILD CARE *
LINE-5 *MODEL WITH SET BACK * ..
ABORT ERRORS ..
DIAGNOSTIC WARNINGS ..
SYSTEMS-REPORT SUMMARY=(SS-A,SS-B,SS-C,SS-F,SS-H,SS-K,SS-O) ..

```

#### \$ SCHEDULES

```

D_FULL =DAY-SCHEDULE (1,24) (1.) ..
D_OFF =DAY-SCHEDULE (1,24) (0.) ..
HEAT 68_D =DAY-SCHEDULE (1,24) (68.) ..
FAN_WSB_A_D =DAY-SCHEDULE (1,6) (0.) ..
(7,12) (1.) ..
(13,24) (0.) ..
FAN_WSB_B_D =DAY-SCHEDULE (1,7) (0.) ..
(8,11) (1.) ..
(12,24) (0.) ..
FAN_WSB_C_D =DAY-SCHEDULE (1,4) (0.) ..

```



```

(5,17) (1.)
(18,24) (0.) ..
HT68WSBA_D =DAY-SCHEDULE (1,6) (50.)
(7,12) (74.)
(13,24) (50.) ..
HT68WSBB_D =DAY-SCHEDULE (1,7) (50.)
(8,12) (74.)
(13,24) (50.) ..
HT68WSBC_D =DAY-SCHEDULE (1,4) (50.)
(5,17) (74.)
(18,24) (50.) ..
HEAT50_D =DAY-SCHEDULE (1,24) (50.) ..

W_FULL =WEEK-SCHEDULE (ALL) D_FULL ..
W_OFF =WEEK-SCHEDULE (ALL) D_OFF ..
HEAT_68_W =WEEK-SCHEDULE (ALL) HEAT_68_D ..
FAN_WSB1_W =WEEK-SCHEDULE (MON) D_OFF
(TUE) FAN_WSB_D
(WED) D_OFF
(THU) FAN_WSB_D
(FRI) D_OFF
(SAT) D_OFF
(SUN) FAN_WSB_D
(HOL) D_OFF ..
FAN_WSB2_W =WEEK-SCHEDULE (WD) FAN_WSB_D
(SAT) D_OFF
(SUN) FAN_WSB_D
(HOL) FAN_WSB_D ..
FAN_WSB3_W =WEEK-SCHEDULE (WD) FAN_WSB_D
(SAT) D_OFF
(SUN) D_OFF
(HOL) FAN_WSB_D ..
HT68WSB1_W =WEEK-SCHEDULE (MON) HEAT50_D
(TUE) HT68WSBB_D
(WED) HEAT50_D
(THU) HT68WSBB_D
(FRI) HEAT50_D
(SAT) HEAT50_D
(SUN) HT68WSBA_D
(HOL) HT68WSBA_D ..
HT68WSB2_W =WEEK-SCHEDULE (WD) HT68WSBC_D
(SAT) HEAT50_D
(SUN) HT68WSBA_D
(HOL) HT68WSBC_D ..
HT68WSB3_W =WEEK-SCHEDULE (WD) HT68WSBC_D
(SAT) HEAT50_D
(SUN) HEAT50_D
(HOL) HT68WSBC_D ..

FULL_ON =SCHEDULE THRU DEC 31 W_FULL ..
FULL_OFF =SCHEDULE THRU DEC 31 W_OFF ..
$ HEATING TEMPERATURE SET
HEAT_68 =SCHEDULE THRU DEC 31 HEAT_68_W ..
$ CHAPEL FAN SET BACK
FAN_W_SB_1 =SCHEDULE THRU DEC 31 FAN_WSB1_W ..
$ OFFICES FAN SET BACK
FAN_W_SB_2 =SCHEDULE THRU DEC 31 FAN_WSB2_W ..
$ CHILD DEV & REL ED SB
FAN_W_SB_3 =SCHEDULE THRU DEC 31 FAN_WSB3_W ..
$ CHAPEL HEAT SET BACK
HT68_W_SB1 =SCHEDULE THRU DEC 31 HT68WSB1_W ..
$ OFFICES HEAT SET BACK
HT68_W_SB_2 =SCHEDULE THRU DEC 31 HT68WSB2_W ..
$ CHLD DEV & REL ED HT SB
HT68_W_SB3 =SCHEDULE THRU DEC 31 HT68WSB3_W ..

```

# \$ ZONE DESCRIPTION

```

CHAPEL =ZONE DESIGN-HEAT-T = 68.0 DESIGN-COOL-T = 85.0
HEAT-TEMP-SCH = HT68 W SB1 ZONE-TYPE = CONDITIONED
THERMOSTAT-TYPE = PROPORTIONAL
BASEBOARD-CTRL = THERMOSTATIC
BASEBOARD-RATING = -51724. ASSIGNED-CFM = 4100.
OUTSIDE-AIR-CFM = 2000. SIZING-OPTION = FROM-LOADS ..

OFFICES =ZONE DESIGN-HEAT-T = 68.0 DESIGN-COOL-T = 85.0
HEAT-TEMP-SCH = HT68 W SB_2 ZONE-TYPE = CONDITIONED
THERMOSTAT-TYPE = PROPORTIONAL
BASEBOARD-CTRL = THERMOSTATIC
BASEBOARD-RATING = -125356. ASSIGNED-CFM = 2900.
OUTSIDE-AIR-CFM = 900. SIZING-OPTION = FROM-LOADS ..

REL_ED =ZONE DESIGN-HEAT-T = 68.0 DESIGN-COOL-T = 85.0
HEAT-TEMP-SCH = HT68 W SB3 ZONE-TYPE = CONDITIONED
THERMOSTAT-TYPE = PROPORTIONAL
BASEBOARD-CTRL = THERMOSTATIC
BASEBOARD-RATING = -286528. ASSIGNED-CFM = 8075.
OUTSIDE-AIR-CFM = 1200. SIZING-OPTION = FROM-LOADS ..

```

CHILD\_DEV =ZONE DESIGN-HEAT-T = 68.0 DESIGN-COOL-T = 85.0  
 HEAT-TEMP-SCH = HT68 W SB3 ZONE-TYPE = CONDITIONED  
 THERMOSTAT-TYPE = PROPORTIONAL  
 BASEBOARD-CTRL = THERMOSTATIC  
 BASEBOARD-RATING = -429792. ASSIGNED-CFM = 14950.  
 OUTSIDE-AIR-CFM = 3850. SIZING-OPTION = FROM-LOADS  
 EXHAUST-CFM = 2050.0 ..

# \$ SYSTEM DESCRIPTION

AHU\_1 =SYSTEM SYSTEM-TYPE = HVSYS  
 MAX-SUPPLY-T = 120.0 HEATING-SCHEDULE = FULL\_ON  
 MIN-HUMIDITY = 30.0 ECONO-LIMIT-T = 65.0  
 ECONO-LOW-LIMIT = 55.0 HEAT-CONTROL = COLDEST  
 SUPPLY-CFM = 4100. RETURN-CFM = 2100.  
 RATED-CFM = 4100. MIN-OUTSIDE-AIR = 0.49  
 FAN-SCHEDULE = FAN\_W\_SB\_1 SUPPLY-DELTA-T = 2.4  
 SUPPLY-KW = 0.0011  
 MOTOR-PLACEMENT = OUTSIDE-AIRFLOW  
 NIGHT-CYCLE-CTRL = CYCLE-ON-ANY NIGHT-VENT-DT = 0.0  
 HEATING-CAPACITY = -235700. FURNACE-AUX = 0.  
 ZONE-NAMES = (CHAPEL) ..

AHU\_2 =SYSTEM SYSTEM-TYPE = HVSYS  
 MAX-SUPPLY-T = 120.0 HEATING-SCHEDULE = FULL\_ON  
 MIN-HUMIDITY = 30.0 ECONO-LIMIT-T = 66.0  
 ECONO-LOW-LIMIT = 55.0 HEAT-CONTROL = COLDEST  
 SUPPLY-CFM = 2900. RETURN-CFM = 2000.  
 RATED-CFM = 2900. MIN-OUTSIDE-AIR = 0.31  
 FAN-SCHEDULE = FAN\_W\_SB\_2 SUPPLY-DELTA-T = 2.4  
 SUPPLY-KW = 0.0011  
 MOTOR-PLACEMENT = OUTSIDE-AIRFLOW  
 NIGHT-CYCLE-CTRL = CYCLE-ON-ANY NIGHT-VENT-DT = 0.0  
 HEATING-CAPACITY = -90500. FURNACE-AUX = 0.  
 ZONE-NAMES = (OFFICES) ..

AHU\_3-5 =SYSTEM SYSTEM-TYPE = HVSYS  
 MAX-SUPPLY-T = 120.0 HEATING-SCHEDULE = FULL\_ON  
 MIN-HUMIDITY = 30.0 ECONO-LIMIT-T = 65.0  
 ECONO-LOW-LIMIT = 55.0 HEAT-CONTROL = COLDEST  
 SUPPLY-CFM = 8075. RETURN-CFM = 6875.  
 RATED-CFM = 8075. MIN-OUTSIDE-AIR = 0.18  
 FAN-SCHEDULE = FAN\_W\_SB\_3 SUPPLY-DELTA-T = 2.4  
 SUPPLY-KW = 0.0011  
 MOTOR-PLACEMENT = OUTSIDE-AIRFLOW  
 NIGHT-CYCLE-CTRL = CYCLE-ON-ANY NIGHT-VENT-DT = 0.0  
 HEATING-CAPACITY = -202900. FURNACE-AUX = 0.  
 ZONE-NAMES = (REL\_ED) ..

AHU\_6-10 =SYSTEM SYSTEM-TYPE = HVSYS  
 MAX-SUPPLY-T = 120.0 HEATING-SCHEDULE = FULL\_ON  
 MIN-HUMIDITY = 30.0 ECONO-LIMIT-T = 65.0  
 ECONO-LOW-LIMIT = 55.0 HEAT-CONTROL = COLDEST  
 SUPPLY-CFM = 14950. RETURN-CFM = 11100.  
 RATED-CFM = 14950. MIN-OUTSIDE-AIR = 0.26  
 RECOVERY-EFF = 0.33 FAN-SCHEDULE = FAN\_W\_SB\_3  
 SUPPLY-DELTA-T = 2.4 SUPPLY-KW = 0.0011  
 MOTOR-PLACEMENT = OUTSIDE-AIRFLOW  
 NIGHT-CYCLE-CTRL = CYCLE-ON-ANY NIGHT-VENT-DT = 0.0  
 HEATING-CAPACITY = -585500. FURNACE-AUX = 0.  
 ZONE-NAMES = (CHILD\_DEV) ..

# \$ HOURLY REPORT DESCRIPTION

SYST1 =REPORT-BLOCK VARIABLE-TYPE = AHU\_1  
 VARIABLE-LIST = (5,7,9,10,17,20) ..  
 SYST2 =REPORT-BLOCK VARIABLE-TYPE = CHAPEL  
 VARIABLE-LIST = (6) ..  
 REP1 = HOURLY-REPORT REPORT-SCHEDULE = FULL\_ON  
 REPORT-BLOCK = (SYST1,SYST2)  
 ..  
 END ..  
 COMPUTE SYSTEMS ..  
 INPUT PLANT ..

\$-----\$  
 \$ E Z - D O E P L A N T S I N P U T \$  
 \$-----\$

# \$ GENERAL PROJECT DATA

TITLE LINE-1 \* EMC ENGINEERS INC. \*  
 LINE-2 \*EZDOE - ELITE SOFTWARE DEVELOPMENT INC\*  
 LINE-3 \* DENVER, CO 80227 \*  
 LINE-4 \*BLDG 10785, CHAPEL, REL ED, CHILD CARE \*  
 LINE-5 \*MODEL WITH SET BACK \* ..

ABORT ERRORS ..  
 DIAGNOSTIC WARNINGS ..  
 PLANT-REPORT SUMMARY=(PS-A,PS-B,PS-H,BEPS)  
 ..

# \$ SCHEDULES

DAY\_ON =DAY-SCHEDULE (1,7) (0.)  
 (8,18) (1.)  
 (19,24) (0.) ..

FULL\_ON =WEEK-SCHEDULE (ALL) DAY\_ON ..

\$ heating plant schedule

heating =SCHEDULE THRU DEC 31 FULL\_ON ..

\$ EQUIPMENT DESCRIPTION

DHW =PLANT-EQUIPMENT TYPE = HTANK-STORAGE  
SIZE = 0.7 ..

HEATEXCHAN =PLANT-EQUIPMENT TYPE = HTANK-STORAGE  
SIZE = 2. ..

PLANT-PARAMETERS MAKEUP-WTR-T = 50. STM-BOILER-HIR = 0.76  
HW-BOILER-HIR = 1.27 CHILLER-CONTROL = STANDBY  
OPEN-REC-COND-TYPE = AIR HERM-REC-COND-TYPE = AIR  
COMP-TO-TWR-WTR = 2.77 CCIRC-HEAD = 100.0  
HCIRC-HEAD = 40.0 ..

PART-LOAD-RATIO TYPE = HW-BOILER  
MIN-RATIO = 0.2500 MAX-RATIO = 1.0000  
OPERATING-RATIO = 1.0000 ELEC-INPUT-RATIO = 0.0220 ..

ENERGY-RESOURCE RESOURCE = STEAM SOURCE-SITE-EFF = 1.000 ..  
ENERGY-RESOURCE RESOURCE = ELECTRICITY ..

ENERGY-STORAGE HEAT-STORE-RATE = 2.75 HEAT-SUPPLY-RATE = 2.75  
HTANK-BASE-T = 210.0 HTANK-T-RANGE = 15.6  
HEAT-STORE-SCH = heating ..

HEAT-RECOVERY  
SUPPLY-1 = (HTANK-STORAGE)  
DEMAND-1 = (SPACE-HEAT) ..

END ..  
COMPUTE PLANT ..  
STOP ..

ENERGY TYPE IN SITE MBTU-	STEAM	ELECTRICITY	RECOVERED
CATEGORY OF USE			
SPACE HEAT	2,381.32	0.00	0.00
SPACE COOL	0.00	0.00	0.00
HVAC AUX	0.00	364.55	0.00
DOM HOT WTR	0.00	0.00	0.00
AUX SOLAR	0.00	0.00	0.00
LIGHTS	0.00	444.19	0.00
VERT TRANS	0.00	0.00	0.00
MISC EQUIP	0.00	385.71	0.00
	<hr/>	<hr/>	<hr/>
TOTAL	2,381.32	1,194.45	0.00

TOTAL SITE ENERGY 3575.76 MBTU 70.7 KBTU/SQFT-YR GROSS-AREA 70.7 KBTU/SQFT-YR NET-AREA  
 TOTAL SOURCE ENERGY 5968.22 MBTU 118.0 KBTU/SQFT-YR GROSS-AREA 118.0 KBTU/SQFT-YR NET-AREA

PERCENT OF HOURS ANY SYSTEM ZONE OUTSIDE OF THROTTLING RANGE = 20.6  
 PERCENT OF HOURS ANY PLANT LOAD NOT SATISFIED = 0.0

NOTE ELECTRICITY AND/OR FUEL USED TO GENERATE ELECTRICITY IS APPORTIONED BASED  
 ON THE YEARLY DEMAND. ALL OTHER ENERGY TYPES ARE APPORTIONED HOURLY.

EMC ENGINEERS INC. EZDOE - ELITE SOFTWARE DEVELOPMENT INC DOE-2.1D 3/21/1995 15:18:37 PDL RUN 1  
 DENVER, CO 80227 BLDG 10785, CHAPEL, REL ED, CHILD CARE MODEL WITH SET BACK WEATHER FILE- MASSENA, NY  
 REPORT- PS-B MONTHLY PEAK AND TOTAL ENERGY USE

MO	UTILITY-	STEAM	ELECTRICITY
	TOTAL (MBTU)	452.401	101.471
JAN	PEAK (KBTU)	2201.650	289.777
	DY/HR	6/12	11/12
	TOTAL (MBTU)	359.791	92.494
FEB	PEAK (KBTU)	1959.356	289.777
	DY/HR	15/ 8	15/12
	TOTAL (MBTU)	377.738	103.031
MAR	PEAK (KBTU)	1875.701	274.378
	DY/HR	8/ 8	31/17
	TOTAL (MBTU)	218.178	97.525
APR	PEAK (KBTU)	1650.959	274.378
	DY/HR	4/ 6	29/17
	TOTAL (MBTU)	137.064	101.348
MAY	PEAK (KBTU)	1488.810	274.378
	DY/HR	2/ 5	31/12
	TOTAL (MBTU)	37.116	98.485
JUN	PEAK (KBTU)	738.355	274.378
	DY/HR	8/ 5	29/16
	TOTAL (MBTU)	10.576	99.033
JUL	PEAK (KBTU)	479.300	274.378
	DY/HR	25/ 5	25/12
	TOTAL (MBTU)	18.476	101.727
AUG	PEAK (KBTU)	550.868	274.378
	DY/HR	22/ 5	31/17
	TOTAL (MBTU)	54.687	98.587
SEP	PEAK (KBTU)	753.089	274.378
	DY/HR	23/ 5	30/12
	TOTAL (MBTU)	136.802	99.983
OCT	PEAK (KBTU)	1201.280	274.378
	DY/HR	31/ 5	31/17
	TOTAL (MBTU)	233.042	98.949
NOV	PEAK (KBTU)	1731.050	274.378
	DY/HR	28/ 6	30/17
	TOTAL (MBTU)	345.453	101.801
DEC	PEAK (KBTU)	1930.095	274.378
	DY/HR	20/ 9	30/17
	ONE YEAR	2381.324	1194.435
	USE/PEAK	2201.650	289.777

**COMPUTER SIMULATIONS**  
**BUILDING 10785**

RUN 3 - DDC

# INPUT LOADS ..

```

$-----$
$ B Z - D O E   L O A D S   I N P U T $
$-----$

```

## \$ GENERAL PROJECT DATA

```

TITLE  LINE-1 *   EMC       ENGINEERS   INC.   *
        LINE-2 *EZDOE - ELITE SOFTWARE DEVELOPMENT INC*
        LINE-3 *   DENVER,   CO       80227   *
        LINE-4 *BLDG 10785, CHAPEL, REL ED. CHILD CARE *
        LINE-5 *MODEL WITH SET BACK AND DDC   * ..

```

```

ABORT      ERRORS ..
DIAGNOSTIC WARNINGS ..
LOADS-REPORT SUMMARY=(LS-A,LS-B,LS-C,LS-D,LS-E,LS-F,LS-K) ..
BUILDING-LOCATION LATITUDE = 44.0
                  ALTITUDE = 655.
                  AZIMUTH  = -130.
                  TIME-ZONE = 5
                  GROSS-AREA = 50591
                  HOLIDAY = NO
                  SHIELDING-COEFF = 0.29
                  X-REF = 0.0
                  Y-REF = 0.0 ..
RUN-PERIOD  JAN 1 1994 THRU DEC 31 1994 ..

```

## \$ SCHEDULES

```

LIGHTS      =DAY-SCHEDULE (1,2) (1.)
                  (3,11) (0.5)
                  (12,13) (0.6)
                  (14,24) (1.) ..

OCCUP        =DAY-SCHEDULE (1,5) (0.)
                  (6,10) (0.1,0.5,0.9,0.8,0.5)
                  (11,14) (0.7,0.9,0.8,0.4)
                  (15,16) (0.3)
                  (17,18) (0.5,0.9)
                  (19,20) (0.7,0.2)
                  (21,24) (0.) ..

APPLIANCE    =DAY-SCHEDULE (1) (0.)
                  (2,3) (0.7)
                  (4,12) (0.02)
                  (13,15) (0.6)
                  (16,18) (0.02)
                  (19,20) (0.7)
                  (21,24) (0.8) ..

CND_DAY      =DAY-SCHEDULE (1,24) (1.) ..

FULL_OFFD    =DAY-SCHEDULE (1,24) (0.) ..

appliance    =DAY-SCHEDULE (1,5) (0.)
                  (6,7) (0.4)
                  (8,11) (0.6)
                  (12,13) (0.8)
                  (14,15) (0.5)
                  (16,17) (0.8)
                  (18,19) (0.6)
                  (20,24) (0.) ..

lights       =DAY-SCHEDULE (1,5) (0.1)
                  (6) (0.4)
                  (7,18) (0.5)
                  (19) (0.4)
                  (20,24) (0.2) ..

worship      =DAY-SCHEDULE (1,6) (0.)
                  (7,10) (0.2,0.7,0.8,0.5)
                  (11,16) (0.2)
                  (17,18) (0.1,0.3)
                  (19,20) (0.5,0.2)
                  (21,24) (0.) ..

chapelwkdy   =DAY-SCHEDULE (1,7) (0.)
                  (8,18) (0.2)
                  (19,20) (0.3)
                  (21,24) (0.) ..

PEOPLE       =WEEK-SCHEDULE (ALL) OCCUP ..

LIGHTS_WK    =WEEK-SCHEDULE (ALL) lights ..

APPLI_WK     =WEEK-SCHEDULE (ALL) appliance ..

CND_WK       =WEEK-SCHEDULE (ALL) CND_DAY ..

FULL_OFFW    =WEEK-SCHEDULE (ALL) FULL_OFFD ..

chapel       =WEEK-SCHEDULE (WD) chapelwkdy
                  (SAT) chapelwkdy
                  (SUN) worship
                  (HOL) worship ..

```

```

$ FULL ON SCHEDULE
FULL_ON      =SCHEDULE THRU DEC 31 PEOPLE ..

```

```

$ LOADS OCCUPANCY SCHED
OCCUPANCY    =SCHEDULE THRU DEC 31 PEOPLE ..

```

```

$ LIGHTING SCHEDULE
LIGHTS_ON =SCHEDULE THRU DEC 31 LIGHTS_WK ..

$ APPLIANCE SCHEDULE
APPLI_ON =SCHEDULE THRU DEC 31 APPLI_WK ..

$ COND VENTIL SCHED
CND_SCHED =SCHEDULE THRU MAR 1 FULL_OFFW
              THRU NOV 30 CND_WK
              THRU DEC 31 FULL_OFFW ..

$ LOADS OCCUPANCY SCHED
Chapelschd =SCHEDULE THRU DEC 31 chapel ..

```

# \$ CONSTRUCTION TYPES

```

$ DOOR CONSTRUCTION
DOORCON =CONSTRUCTION U-VALUE = 0.400 ..
FLOOR =CONSTRUCTION U-VALUE = 0.100
              ABSORPTANCE = 1.000
              ROUGHNESS = 1 ..
ROOFCON =CONSTRUCTION U-VALUE = 0.050 ..
EXWALL =CONSTRUCTION U-VALUE = 0.200
              ABSORPTANCE = 0.750 ..
INWALL =CONSTRUCTION U-VALUE = 0.500 ..

GTYPE_1 =GLASS-TYPE SHADING-COEF = 0.400
              PANES = 1
              GLASS-CONDUCTANCE = 1.130 ..
GTYPE_2 =GLASS-TYPE SHADING-COEF = 0.300
              PANES = 1
              GLASS-CONDUCTANCE = 0.790 ..
GTYPE_3 =GLASS-TYPE SHADING-COEF = 0.400
              PANES = 1
              GLASS-CONDUCTANCE = 0.360 ..

```

# \$ SPACE DESCRIPTION

```

CHAPEL =SPACE AREA = 3024.0 VOLUME = 60000.0
              AZIMUTH = 225 TEMPERATURE = (68.)
              ZONE-TYPE = CONDITIONED PEOPLE-SCHEDULE = Chapelschd
              NUMBER-OF-PEOPLE = 150.0 PEOPLE-HEAT-GAIN = 660.0
              LIGHTING-TYPE = SUS-FLUOR LIGHTING-KW = 2.57
              LIGHTING-SCHEDULE = LIGHTS_ON
              EQUIP-SCHEDULE = APPLI_ON EQUIPMENT-KW = 1.0
              INF-METHOD = AIR-CHANGE AIR-CHANGES/HR = 0.66
              INF-SCHEDULE = FULL_ON ..

E-W HEIGHT = 16.0 WIDTH = 54.0 CONS = EXWALL
  AZIMUTH = 225 ..

E-W HEIGHT = 16.0 WIDTH = 56.0 CONS = EXWALL
  AZIMUTH = 135 ..

I-W HEIGHT = 16.0 WIDTH = 54.0 CONS = INWALL
  AZIMUTH = 225 NEXT-TO = OFFICES ..

I-W HEIGHT = 16.0 WIDTH = 56.0 CONS = INWALL
  AZIMUTH = 135 NEXT-TO = OFFICES ..

ROOF HEIGHT = 54.0 WIDTH = 56.0 CONS = ROOFCON
  AZIMUTH = 225 TILT = 0 ..

U-W HEIGHT = 54.0 WIDTH = 56.0 CONS = FLOOR
  AZIMUTH = 225 ..

OFFICES =SPACE AREA = 7048.0 VOLUME = 63432.0
              AZIMUTH = 225 TEMPERATURE = (68.)
              ZONE-TYPE = CONDITIONED PEOPLE-SCHEDULE = OCCUPANCY
              NUMBER-OF-PEOPLE = 25.0 PEOPLE-HEAT-GAIN = 660.0
              LIGHTING-TYPE = SUS-FLUOR LIGHTING-KW = 5.99
              LIGHTING-SCHEDULE = LIGHTS_ON
              EQUIP-SCHEDULE = APPLI_ON EQUIPMENT-KW = 5.0
              INF-METHOD = AIR-CHANGE AIR-CHANGES/HR = 0.66
              INF-SCHEDULE = FULL_ON ..

E-W HEIGHT = 9.0 WIDTH = 37.0 CONS = EXWALL
  AZIMUTH = 225 ..

DOOR HEIGHT = 8.0 WIDTH = 6.0 CONS = DOORCON ..

I-W HEIGHT = 9.0 WIDTH = 56.0 CONS = INWALL
  AZIMUTH = 135 NEXT-TO = CHAPEL ..

I-W HEIGHT = 9.0 WIDTH = 54.0 CONS = INWALL
  AZIMUTH = 225 NEXT-TO = CHAPEL ..

E-W HEIGHT = 9.0 WIDTH = 32.0 CONS = EXWALL
  AZIMUTH = 225 ..

DOOR HEIGHT = 8.0 WIDTH = 3.0 CONS = DOORCON ..

E-W HEIGHT = 9.0 WIDTH = 65.0 CONS = EXWALL
  AZIMUTH = 135 ..

DOOR HEIGHT = 8.0 WIDTH = 6.0 CONS = DOORCON ..

E-W HEIGHT = 9.0 WIDTH = 73.0 CONS = EXWALL
  AZIMUTH = 45 ..

```



I-W HEIGHT = 9.0 WIDTH = 14.0 CONS = INWALL  
 AZIMUTH = 315 NEXT-TO = REL\_ED ..  
 I-W HEIGHT = 9.0 WIDTH = 16.0 CONS = INWALL  
 AZIMUTH = 45 NEXT-TO = REL\_ED ..  
 E-W HEIGHT = 9.0 WIDTH = 9.0 CONS = EXWALL  
 AZIMUTH = 45 ..  
 DOOR HEIGHT = 8.0 WIDTH = 6.0 CONS = DOORCON ..  
 E-W HEIGHT = 9.0 WIDTH = 42.0 CONS = EXWALL  
 AZIMUTH = 315 ..  
 DOOR HEIGHT = 8.0 WIDTH = 3.0 CONS = DOORCON ..  
 E-W HEIGHT = 9.0 WIDTH = 15.0 CONS = EXWALL  
 AZIMUTH = 45 ..  
 E-W HEIGHT = 9.0 WIDTH = 28.0 CONS = EXWALL  
 AZIMUTH = 315 ..  
 DOOR HEIGHT = 8.0 WIDTH = 9.0 CONS = DOORCON ..  
 E-W HEIGHT = 9.0 WIDTH = 11.0 CONS = EXWALL  
 AZIMUTH = 45 ..  
 E-W HEIGHT = 9.0 WIDTH = 28.0 CONS = EXWALL  
 AZIMUTH = 315 ..  
 ROOF HEIGHT = 84.0 WIDTH = 84.0 CONS = ROOFCON  
 AZIMUTH = 225 TILT = 0 ..  
 U-W HEIGHT = 84.0 WIDTH = 84.0 CONS = FLOOR  
 AZIMUTH = 225 ..

REL\_ED =SPACE AREA = 16159.0 VOLUME = 150000.0  
 AZIMUTH = 225 TEMPERATURE = (68.)  
 ZONE-TYPE = CONDITIONED PEOPLE-SCHEDULE = OCCUPANCY  
 NUMBER-OF-PEOPLE = 75.0 PEOPLE-HEAT-GAIN = 660.0  
 LIGHTING-TYPE = SUS-FLUOR LIGHTING-KW = 13.7  
 LIGHTING-SCHEDULE = LIGHTS\_ON  
 EQUIP-SCHEDULE = APPLI\_ON EQUIPMENT-KW = 7.0  
 INF-METHOD = AIR-CHANGE AIR-CHANGES/HR = 0.66  
 INF-SCHEDULE = FULL\_ON ..

E-W HEIGHT = 9.0 WIDTH = 88.0 CONS = EXWALL  
 AZIMUTH = 225 ..  
 WINDOW HEIGHT = 4.0 WIDTH = 2.0 G-T = GTYPE\_1  
 MULTIPLIER = 6.0 ..  
 DOOR HEIGHT = 8.0 WIDTH = 3.0 CONS = DOORCON  
 MULTIPLIER = 3.0 ..  
 E-W HEIGHT = 9.0 WIDTH = 35.0 CONS = EXWALL  
 AZIMUTH = 135 ..  
 E-W HEIGHT = 9.0 WIDTH = 57.0 CONS = EXWALL  
 AZIMUTH = 225 ..  
 DOOR HEIGHT = 8.0 WIDTH = 3.0 CONS = DOORCON  
 MULTIPLIER = 4.0 ..  
 E-W HEIGHT = 9.0 WIDTH = 85.0 CONS = EXWALL  
 AZIMUTH = 135 ..  
 WINDOW HEIGHT = 4.0 WIDTH = 2.0 G-T = GTYPE\_1  
 MULTIPLIER = 7.0 ..  
 DOOR HEIGHT = 8.0 WIDTH = 3.0 CONS = DOORCON ..  
 E-W HEIGHT = 9.0 WIDTH = 93.0 CONS = EXWALL  
 AZIMUTH = 45 ..  
 WINDOW HEIGHT = 4.0 WIDTH = 2.0 G-T = GTYPE\_1  
 MULTIPLIER = 8.0 ..  
 DOOR HEIGHT = 8.0 WIDTH = 4.0 CONS = DOORCON  
 MULTIPLIER = 2.0 ..  
 I-W HEIGHT = 9.0 WIDTH = 33.0 CONS = INWALL  
 AZIMUTH = 315 NEXT-TO = CHILD\_DEV ..  
 I-W HEIGHT = 9.0 WIDTH = 31.0 CONS = INWALL  
 AZIMUTH = 45 NEXT-TO = CHILD\_DEV ..  
 DOOR HEIGHT = 8.0 WIDTH = 3.0 CONS = DOORCON  
 MULTIPLIER = 2.0 ..  
 E-W HEIGHT = 9.0 WIDTH = 26.0 CONS = EXWALL  
 AZIMUTH = 315 ..  
 WINDOW HEIGHT = 5.0 WIDTH = 6.0 G-T = GTYPE\_1  
 MULTIPLIER = 2.0 ..  
 E-W HEIGHT = 9.0 WIDTH = 32.0 CONS = EXWALL  
 AZIMUTH = 45 ..  
 DOOR HEIGHT = 8.0 WIDTH = 3.0 CONS = DOORCON  
 MULTIPLIER = 2.0 ..  
 E-W HEIGHT = 8.0 WIDTH = 74.0 CONS = EXWALL  
 AZIMUTH = 315 ..  
 WINDOW HEIGHT = 4.0 WIDTH = 2.0 G-T = GTYPE\_1  
 MULTIPLIER = 4.0 ..

```

WINDOW HEIGHT = 5.0 WIDTH = 6.0 G-T = GTYPE_1 ..
DOOR HEIGHT = 8.0 WIDTH = 3.0 CONS = DOORCON
MULTIPLIER = 2.0 ..
ROOF HEIGHT = 127.0 WIDTH = 127.0 CONS = ROOFCON
AZIMUTH = 225 TILT = 0 ..
U-W HEIGHT = 127.0 WIDTH = 127.0 CONS = FLOOR
AZIMUTH = 225 ..
I-W HEIGHT = 9.0 WIDTH = 14.0 CONS = INWALL
AZIMUTH = 225 NEXT-TO = OFFICES ..
I-W HEIGHT = 9.0 WIDTH = 16.0 CONS = INWALL
AZIMUTH = 135 NEXT-TO = OFFICES ..

CHILD_DEV =SPACE AREA = 24360.0 VOLUME = 219240.0
AZIMUTH = 225 TEMPERATURE = (68.)
ZONE-TYPE = CONDITIONED PEOPLE-SCHEDULE = OCCUPANCY
NUMBER-OF-PEOPLE = 250.0 PEOPLE-HEAT-GAIN = 660.0
LIGHTING-TYPE = REC-FLUOR-RV LIGHTING-KW = 20.7
LIGHTING-SCHEDULE = LIGHTS_ON
EQUIP-SCHEDULE = APPLI_ON EQUIPMENT-KW = 23.0
INF-METHOD = AIR-CHANGE AIR-CHANGES/HR = 0.66
INF-SCHEDULE = FULL_ON ..

E-W HEIGHT = 9.0 WIDTH = 176.0 CONS = EXWALL
AZIMUTH = 225 ..
DOOR HEIGHT = 8.0 WIDTH = 3.0 CONS = DOORCON
MULTIPLIER = 6.0 ..
WINDOW HEIGHT = 4.0 WIDTH = 2.0 G-T = GTYPE_1
MULTIPLIER = 13.0 ..
I-W HEIGHT = 9.0 WIDTH = 33.0 CONS = INWALL
AZIMUTH = 225 NEXT-TO = REL_ED ..
E-W HEIGHT = 9.0 WIDTH = 176.0 CONS = EXWALL
AZIMUTH = 135 ..
WINDOW HEIGHT = 5.0 WIDTH = 10.0 G-T = GTYPE_1
MULTIPLIER = 3.0 ..
WINDOW HEIGHT = 4.0 WIDTH = 2.0 G-T = GTYPE_1
MULTIPLIER = 6.0 ..
I-W HEIGHT = 9.0 WIDTH = 33.0 CONS = INWALL
AZIMUTH = 135 NEXT-TO = REL_ED ..
E-W HEIGHT = 9.0 WIDTH = 70.0 CONS = EXWALL
AZIMUTH = 45 ..
WINDOW HEIGHT = 4.0 WIDTH = 2.0 G-T = GTYPE_1
MULTIPLIER = 2.0 ..
E-W HEIGHT = 9.0 WIDTH = 139.0 CONS = EXWALL
AZIMUTH = 315 ..
E-W HEIGHT = 9.0 WIDTH = 133.0 CONS = EXWALL
AZIMUTH = 45 ..
E-W HEIGHT = 9.0 WIDTH = 70.0 CONS = EXWALL
AZIMUTH = 315 ..
ROOF HEIGHT = 156.0 WIDTH = 156.0 CONS = ROOFCON
AZIMUTH = 225 TILT = 0 ..
U-W HEIGHT = 156.0 WIDTH = 156.0 CONS = FLOOR
AZIMUTH = 225 ..

END ..
COMPUTE LOADS ..
INPUT SYSTEMS ..

```

```

$-----$
$ E Z - D O E   S Y S T E M S   I N P U T $
$-----$

```

#### \$ GENERAL PROJECT DATA

```

TITLE LINE-1 * EMC ENGINEERS INC. *
LINE-2 *EZDOE - ELITE SOFTWARE DEVELOPMENT INC*
LINE-3 * DENVER, CO 80227 *
LINE-4 *BLDG 10785, CHAPEL, REL ED, CHILD CARE *
LINE-5 *MODEL WITH SET BACK AND DDC * ..
ABORT ERRORS ..
DIAGNOSTIC WARNINGS ..
SYSTEMS-REPORT SUMMARY=(SS-A,SS-B,SS-C,SS-F,SS-H,SS-K,SS-O) ..

```

#### \$ SCHEDULES

```

D_FULL =DAY-SCHEDULE (1,24) (1.) ..
D_OFF =DAY-SCHEDULE (1,24) (0.) ..
HEAT_68_D =DAY-SCHEDULE (1,24) (68.) ..
FAN_WSBA_D =DAY-SCHEDULE (1,6) (0.)
(7,12) (1.)
(13,24) (0.) ..
FAN_WSBB_D =DAY-SCHEDULE (1,7) (0.)
(8,11) (1.)
(12,24) (0.) ..
FAN_WSBC_D =DAY-SCHEDULE (1,4) (0.)

```

```

(5,17) (1.)
(18,24) (0.) ..
HT68WSBA_D =DAY-SCHEDULE (1,6) (50.)
(7,12) (68.)
(13,24) (50.) ..
HT68WSBB_D =DAY-SCHEDULE (1,7) (50.)
(8,12) (68.)
(13,24) (50.) ..
HT68WSBC_D =DAY-SCHEDULE (1,4) (50.)
(5,17) (68.)
(18,24) (50.) ..
HEAT50_D =DAY-SCHEDULE (1,24) (50.) ..
W_FULL =WEEK-SCHEDULE (ALL) D_FULL ..
W_OFF =WEEK-SCHEDULE (ALL) D_OFF ..
HEAT_68_W =WEEK-SCHEDULE (ALL) HEAT_68_D ..
FAN_WSB1_W =WEEK-SCHEDULE (MON) D_OFF
(TUE) FAN_WSB_D
(WED) D_OFF
(THU) FAN_WSB_D
(FRI) D_OFF
(SAT) D_OFF
(SUN) FAN_WSB_D
(HOL) D_OFF ..
FAN_WSB2_W =WEEK-SCHEDULE (WD) FAN_WSB_D
(SAT) D_OFF
(SUN) FAN_WSB_D
(HOL) FAN_WSB_D ..
FAN_WSB3_W =WEEK-SCHEDULE (WD) FAN_WSB_D
(SAT) D_OFF
(SUN) D_OFF
(HOL) FAN_WSB_D ..
HT68WSB1_W =WEEK-SCHEDULE (MON) HEAT50_D
(TUE) HT68WSBB_D
(WED) HEAT50_D
(THU) HT68WSBB_D
(FRI) HEAT50_D
(SAT) HEAT50_D
(SUN) HT68WSBA_D
(HOL) HT68WSBA_D ..
HT68WSB2_W =WEEK-SCHEDULE (WD) HT68WSBC_D
(SAT) HEAT50_D
(SUN) HT68WSBA_D
(HOL) HT68WSBC_D ..
HT68WSB3_W =WEEK-SCHEDULE (WD) HT68WSBC_D
(SAT) HEAT50_D
(SUN) HEAT50_D
(HOL) HT68WSBC_D ..
FULL_ON =SCHEDULE THRU DEC 31 W_FULL ..
FULL_OFF =SCHEDULE THRU DEC 31 W_OFF ..
$ HEATING TEMPERATURE SET
HEAT_68 =SCHEDULE THRU DEC 31 HEAT_68_W ..
$ CHAPEL FAN SET BACK
FAN_W_SB_1 =SCHEDULE THRU DEC 31 FAN_WSB1_W ..
$ OFFICES FAN SET BACK
FAN_W_SB_2 =SCHEDULE THRU DEC 31 FAN_WSB2_W ..
$ CHILD DEV & REL ED SB
FAN_W_SB_3 =SCHEDULE THRU DEC 31 FAN_WSB3_W ..
$ CHAPEL HEAT SET BACK
HT68_W_SB1 =SCHEDULE THRU DEC 31 HT68WSB1_W ..
$ OFFICES HEAT SET BACK
HT68_W_SB_2 =SCHEDULE THRU DEC 31 HT68WSB2_W ..
$ CHLD DEV & REL ED HT SB
HT68_W_SB3 =SCHEDULE THRU DEC 31 HT68WSB3_W ..

```

# \$ ZONE DESCRIPTION

```

CHAPEL =ZONE DESIGN-HEAT-T = 68.0 DESIGN-COOL-T = 85.0
HEAT-TEMP-SCH = HT68_W_SB1 ZONE-TYPE = CONDITIONED
THERMOSTAT-TYPE = PROPORTIONAL
BASEBOARD-CTRL = THERMOSTATIC
BASEBOARD-RATING = -53724. ASSIGNED-CFM = 4100.
OUTSIDE-AIR-CFM = 2000. SIZING-OPTION = FROM-LOADS ..

OFFICES =ZONE DESIGN-HEAT-T = 68.0 DESIGN-COOL-T = 85.0
HEAT-TEMP-SCH = HT68_W_SB_2 ZONE-TYPE = CONDITIONED
THERMOSTAT-TYPE = PROPORTIONAL
BASEBOARD-CTRL = THERMOSTATIC
BASEBOARD-RATING = -125356. ASSIGNED-CFM = 2900.
OUTSIDE-AIR-CFM = 900. SIZING-OPTION = FROM-LOADS ..

REL_ED =ZONE DESIGN-HEAT-T = 68.0 DESIGN-COOL-T = 85.0
HEAT-TEMP-SCH = HT68_W_SB3 ZONE-TYPE = CONDITIONED
THERMOSTAT-TYPE = PROPORTIONAL
BASEBOARD-CTRL = THERMOSTATIC
BASEBOARD-RATING = -286528. ASSIGNED-CFM = 8075.
OUTSIDE-AIR-CFM = 1200. SIZING-OPTION = FROM-LOADS ..

```

```

CHILD_DEV =ZONE DESIGN-HEAT-T = 68.0 DESIGN-COOL-T = 85.0
HEAT-TEMP-SCH = HT68 W_SB3 ZONE-TYPE = CONDITIONED
THERMOSTAT-TYPE = PROPORTIONAL
BASEBOARD-CTRL = THERMOSTATIC
BASEBOARD-RATING = -429792. ASSIGNED-CFM = 14950.
OUTSIDE-AIR-CFM = 3850. SIZING-OPTION = FROM-LOADS
EXHAUST-CFM = 2050.0 ..

$ SYSTEM DESCRIPTION

AHU_1 =SYSTEM SYSTEM-TYPE = HVSYS
MAX-SUPPLY-T = 120.0 HEATING-SCHEDULE = FULL_ON
MIN-HUMIDITY = 30.0 ECONO-LIMIT-T = 65.0
ECONO-LOW-LIMIT = 55.0 HEAT-CONTROL = COLDEST
SUPPLY-CFM = 4100. RETURN-CFM = 2100.
RATED-CFM = 4100. MIN-OUTSIDE-AIR = 0.49
FAN-SCHEDULE = FAN_W_SB_1 SUPPLY-DELTA-T = 2.4
SUPPLY-KW = 0.0011
MOTOR-PLACEMENT = OUTSIDE-AIRFLOW
NIGHT-CYCLE-CTRL = CYCLE-ON-ANY NIGHT-VENT-DT = 0.0
HEATING-CAPACITY = -235700. FURNACE-AUX = 0.
ZONE-NAMES = (CHAPEL) ..

AHU_2 =SYSTEM SYSTEM-TYPE = HVSYS
MAX-SUPPLY-T = 120.0 HEATING-SCHEDULE = FULL_ON
MIN-HUMIDITY = 30.0 ECONO-LIMIT-T = 66.0
ECONO-LOW-LIMIT = 55.0 HEAT-CONTROL = COLDEST
SUPPLY-CFM = 2900. RETURN-CFM = 2000.
RATED-CFM = 2900. MIN-OUTSIDE-AIR = 0.31
FAN-SCHEDULE = FAN_W_SB_2 SUPPLY-DELTA-T = 2.4
SUPPLY-KW = 0.0011
MOTOR-PLACEMENT = OUTSIDE-AIRFLOW
NIGHT-CYCLE-CTRL = CYCLE-ON-ANY NIGHT-VENT-DT = 0.0
HEATING-CAPACITY = -90500. FURNACE-AUX = 0.
ZONE-NAMES = (OFFICES) ..

AHU_3-5 =SYSTEM SYSTEM-TYPE = HVSYS
MAX-SUPPLY-T = 120.0 HEATING-SCHEDULE = FULL_ON
MIN-HUMIDITY = 30.0 ECONO-LIMIT-T = 65.0
ECONO-LOW-LIMIT = 55.0 HEAT-CONTROL = COLDEST
SUPPLY-CFM = 8075. RETURN-CFM = 6875.
RATED-CFM = 8075. MIN-OUTSIDE-AIR = 0.18
FAN-SCHEDULE = FAN_W_SB_3 SUPPLY-DELTA-T = 2.4
SUPPLY-KW = 0.0011
MOTOR-PLACEMENT = OUTSIDE-AIRFLOW
NIGHT-CYCLE-CTRL = CYCLE-ON-ANY NIGHT-VENT-DT = 0.0
HEATING-CAPACITY = -202900. FURNACE-AUX = 0.
ZONE-NAMES = (REL_ED) ..

AHU_6-10 =SYSTEM SYSTEM-TYPE = HVSYS
MAX-SUPPLY-T = 120.0 HEATING-SCHEDULE = FULL_ON
MIN-HUMIDITY = 30.0 ECONO-LIMIT-T = 65.0
ECONO-LOW-LIMIT = 55.0 HEAT-CONTROL = COLDEST
SUPPLY-CFM = 14950. RETURN-CFM = 11100.
RATED-CFM = 14950. MIN-OUTSIDE-AIR = 0.26
RECOVERY-EFF = 0.33 FAN-SCHEDULE = FAN_W_SB_3
SUPPLY-DELTA-T = 2.4 SUPPLY-KW = 0.0011
MOTOR-PLACEMENT = OUTSIDE-AIRFLOW
NIGHT-CYCLE-CTRL = CYCLE-ON-ANY NIGHT-VENT-DT = 0.0
HEATING-CAPACITY = -585500. FURNACE-AUX = 0.
ZONE-NAMES = (CHILD_DEV) ..

$ HOURLY REPORT DESCRIPTION

SYST1 =REPORT-BLOCK VARIABLE-TYPE = AHU_1
VARIABLE-LIST = (5,7,9,10,17,20) ..
SYST2 =REPORT-BLOCK VARIABLE-TYPE = CHAPEL
VARIABLE-LIST = (6) ..
REP1 = HOURLY-REPORT REPORT-SCHEDULE = FULL_ON
REPORT-BLOCK = (SYST1,SYST2)

..
END ..
COMPUTE SYSTEMS ..

INPUT PLANT ..

```

```

$-----$
$ E Z - D O E P L A N T S I N P U T $
$-----$

```

#### \$ GENERAL PROJECT DATA

```

TITLE LINE-1 * EMC ENGINEERS INC. *
LINE-2 *EZDOE - ELITE SOFTWARE DEVELOPMENT INC*
LINE-3 * DENVER, CO 80227 *
LINE-4 *BLDG 10785, CHAPEL, REL ED, CHILD CARE *
LINE-5 *MODEL WITH SET BACK AND DDC * ..

```

```

ABORT ERRORS ..
DIAGNOSTIC WARNINGS ..
PLANT-REPORT SUMMARY=(PS-A,PS-B,PS-H,BEPS)
..

```

#### \$ SCHEDULES

```

DAY_ON =DAY-SCHEDULE (1,7) (0.)
(8,18) (1.)
(19,24) (0.) ..

```

```

FULL_ON =WEEK-SCHEDULE (ALL) DAY_ON ..

```

```

$ heating plant schedule

```

heating =SCHEDULE THRU DEC 31 FULL\_ON ..

\$ EQUIPMENT DESCRIPTION

DHW =PLANT-EQUIPMENT TYPE = HTANK-STORAGE  
SIZE = 0.7 ..

HEATEXCHAN =PLANT-EQUIPMENT TYPE = HTANK-STORAGE  
SIZE = 2. ..

PLANT-PARAMETERS MAKEUP-WTR-T = 50. STM-BOILER-HIR = 0.76  
HW-BOILER-HIR = 1.27 CHILLER-CONTROL = STANDBY  
OPEN-REC-COND-TYPE = AIR HERM-REC-COND-TYPE = AIR  
COMP-TO-TWR-WTR = 2.77 CCIRC-HEAD = 100.0  
HCIRC-HEAD = 40.0 ..

PART-LOAD-RATIO TYPE = HW-BOILER  
MIN-RATIO = 0.2500 MAX-RATIO = 1.0000  
OPERATING-RATIO = 1.0000 ELEC-INPUT-RATIO = 0.0220 ..

ENERGY-RESOURCE RESOURCE = STEAM SOURCE-SITE-EFF = 1.000 ..  
ENERGY-RESOURCE RESOURCE = ELECTRICITY ..

ENERGY-STORAGE HEAT-STORE-RATE = 2.75 HEAT-SUPPLY-RATE = 2.75  
HTANK-BASE-T = 210.0 HTANK-T-RANGE = 15.6  
HEAT-STORE-SCH = heating ..

HEAT-RECOVERY  
SUPPLY-1 = (HTANK-STORAGE)  
DEMAND-1 = (SPACE-HEAT) ..

END ..  
COMPUTE PLANT ..  
STOP ..

ENERGY TYPE IN SITE MBTU-	STEAM	ELECTRICITY	RECOVERED
CATEGORY OF USE			
SPACE HEAT	1,874.21	0.00	0.00
SPACE COOL	0.00	0.00	0.00
HVAC AUX	0.00	363.26	0.00
DOM HOT WTR	0.00	0.00	0.00
AUX SOLAR	0.00	0.00	0.00
LIGHTS	0.00	444.19	0.00
VERT TRANS	0.00	0.00	0.00
MISC EQUIP	0.00	385.71	0.00
	<hr/>	<hr/>	<hr/>
TOTAL	1,874.21	1,193.16	0.00

TOTAL SITE ENERGY 3067.35 MBTU 60.6 KBTU/SQFT-YR GROSS-AREA 60.6 KBTU/SQFT-YR NET-AREA  
 TOTAL SOURCE ENERGY 5457.21 MBTU 107.9 KBTU/SQFT-YR GROSS-AREA 107.9 KBTU/SQFT-YR NET-AREA

PERCENT OF HOURS ANY SYSTEM ZONE OUTSIDE OF THROTTLING RANGE = 10.9  
 PERCENT OF HOURS ANY PLANT LOAD NOT SATISFIED = 0.0

NOTE ELECTRICITY AND/OR FUEL USED TO GENERATE ELECTRICITY IS APPORTIONED BASED  
 ON THE YEARLY DEMAND. ALL OTHER ENERGY TYPES ARE APPORTIONED HOURLY.

MO	UTILITY-	STEAM	ELECTRICITY
	TOTAL (MBTU)	406.878	101.643
JAN	PEAK (KBTU)	2137.146	289.618
	DY/HR	6/ 8	6/12
	TOTAL (MBTU)	312.652	92.697
FEB	PEAK (KBTU)	1791.257	274.219
	DY/HR	15/ 8	28/17
	TOTAL (MBTU)	317.871	103.329
MAR	PEAK (KBTU)	1749.590	274.219
	DY/HR	28/ 6	31/17
	TOTAL (MBTU)	162.962	97.499
APR	PEAK (KBTU)	1517.949	274.219
	DY/HR	4/ 5	29/17
	TOTAL (MBTU)	82.930	101.095
MAY	PEAK (KBTU)	1220.782	274.219
	DY/HR	2/ 5	30/12
	TOTAL (MBTU)	10.874	98.050
JUN	PEAK (KBTU)	513.117	274.219
	DY/HR	8/ 5	29/16
	TOTAL (MBTU)	1.075	98.593
JUL	PEAK (KBTU)	56.015	274.219
	DY/HR	10/ 7	22/16
	TOTAL (MBTU)	3.096	101.228
AUG	PEAK (KBTU)	101.268	274.219
	DY/HR	31/ 5	30/17
	TOTAL (MBTU)	22.166	98.228
SEP	PEAK (KBTU)	529.713	274.219
	DY/HR	23/ 5	29/17
	TOTAL (MBTU)	83.583	99.904
OCT	PEAK (KBTU)	862.006	274.219
	DY/HR	21/ 5	31/17
	TOTAL (MBTU)	177.857	98.957
NOV	PEAK (KBTU)	1657.903	274.219
	DY/HR	28/ 5	30/17
	TOTAL (MBTU)	292.270	101.917
DEC	PEAK (KBTU)	1729.513	274.219
	DY/HR	5/ 6	30/17
	ONE YEAR	1874.214	1193.139
	USE/PEAK	2137.146	289.618

**COMPUTER SIMULATIONS**  
**BUILDING 10785**

**RUN 4 - FORCED VENTILATION**



# INPUT LOADS ..

```

$-----$
$ B Z - D O E   L O A D S   I N P U T $
$-----$

```

## \$ GENERAL PROJECT DATA

```

TITLE  LINE-1 *   EMC       ENGINEERS   INC.      *
        LINE-2 *EZDOE - ELITE SOFTWARE DEVELOPMENT INC*
        LINE-3 *   DENVER,    CO        80227    *

        LINE-4 *BLDG 10785, CHAPEL, REL ED, CHILD CARE *
        LINE-5 *MODEL WITH SETBACK, DDC, AND FORCED VENT* ..

```

```

ABORT      ERRORS ..
DIAGNOSTIC WARNINGS ..
LOADS-REPORT SUMMARY=(LS-A,LS-B,LS-C,LS-D,LS-E,LS-F,LS-K) ..
BUILDING-LOCATION LATITUDE = 44.0
                ALTITUDE = 655.
                AZIMUTH = -130.
                TIME-ZONE = 5
                GROSS-AREA = 50591
                HOLIDAY = NO
                SHIELDING-COEF = 0.29
                X-REF = 0.0
                Y-REF = 0.0 ..
RUN-PERIOD   JAN 1 1994 THRU DEC 31 1994 ..

```

## \$ SCHEDULES

```

LIGHTS      =DAY-SCHEDULE (1,2) (1.)
                (3,11) (0.5)
                (12,13) (0.6)
                (14,24) (1.) ..

OCCUP        =DAY-SCHEDULE (1,5) (0.)
                (6,10) (0.1,0.5,0.9,0.8,0.5)
                (11,14) (0.7,0.9,0.8,0.4)
                (15,16) (0.3)
                (17,18) (0.5,0.9)
                (19,20) (0.7,0.2)
                (21,24) (0.) ..

APPLIANCE    =DAY-SCHEDULE (1) (0.)
                (2,3) (0.7)
                (4,12) (0.02)
                (13,15) (0.6)
                (16,18) (0.02)
                (19,20) (0.7)
                (21,24) (0.8) ..

CND_DAY      =DAY-SCHEDULE (1,24) (1.) ..

FULL_OFFD    =DAY-SCHEDULE (1,24) (0.) ..

appliance    =DAY-SCHEDULE (1,5) (0.)
                (6,7) (0.4)
                (8,11) (0.6)
                (12,13) (0.8)
                (14,15) (0.5)
                (16,17) (0.8)
                (18,19) (0.6)
                (20,24) (0.) ..

lights       =DAY-SCHEDULE (1,5) (0.1)
                (6) (0.4)
                (7,18) (0.5)
                (19) (0.4)
                (20,24) (0.2) ..

worship      =DAY-SCHEDULE (1,6) (0.)
                (7,10) (0.2,0.7,0.8,0.5)
                (11,16) (0.2)
                (17,18) (0.1,0.3)
                (19,20) (0.5,0.2)
                (21,24) (0.) ..

chapelwkdy   =DAY-SCHEDULE (1,7) (0.)
                (8,18) (0.2)
                (19,20) (0.3)
                (21,24) (0.) ..

PEOPLE       =WEEK-SCHEDULE (ALL) OCCUP ...

LIGHTS_WK    =WEEK-SCHEDULE (ALL) lights ..

APPLI_WK     =WEEK-SCHEDULE (ALL) appliance ..

CND_WK       =WEEK-SCHEDULE (ALL) CND_DAY ..

FULL_OFFW    =WEEK-SCHEDULE (ALL) FULL_OFFD ..

chapel       =WEEK-SCHEDULE (WD) chapelwkdy
                (SAT) chapelwkdy
                (SUN) worship
                (HOL) worship ..

```

```

$ FULL ON SCHEDULE
FULL_ON      =SCHEDULE THRU DEC 31 PEOPLE ..

```

```

$ LOADS OCCUPANCY SCHED
OCCUPANCY    =SCHEDULE THRU DEC 31 PEOPLE ..

```

\$ LIGHTING SCHEDULE  
 LIGHTS\_ON =SCHEDULE THRU DEC 31 LIGHTS\_WK ..

\$ APPLIANCE SCHEDULE  
 APPLI\_ON =SCHEDULE THRU DEC 31 APPLI\_WK ..

\$ COND VENTIL SCHED  
 CND\_SCHED =SCHEDULE THRU MAR 1 FULL\_OFFW  
 THRU NOV 30 CND\_WK  
 THRU DEC 31 FULL\_OFFW ..

\$ LOADS OCCUPANCY SCHED  
 Chapelschd =SCHEDULE THRU DEC 31 chapel ..

# \$ CONSTRUCTION TYPES

\$ DOOR CONSTRUCTION  
 DOORCON =CONSTRUCTION U-VALUE = 0.400 ..  
 FLOOR =CONSTRUCTION U-VALUE = 0.100  
 ABSORPTANCE = 1.000  
 ROUGHNESS = 1 ..

ROOFCON =CONSTRUCTION U-VALUE = 0.050 ..  
 EXWALL =CONSTRUCTION U-VALUE = 0.200  
 ABSORPTANCE = 0.750 ..  
 INWALL =CONSTRUCTION U-VALUE = 0.500 ..

GTYPE\_1 =GLASS-TYPE SHADING-COEF = 0.400  
 PANES = 1  
 GLASS-CONDUCTANCE = 1.130 ..  
 GTYPE\_2 =GLASS-TYPE SHADING-COEF = 0.300  
 PANES = 1  
 GLASS-CONDUCTANCE = 0.790 ..  
 GTYPE\_3 =GLASS-TYPE SHADING-COEF = 0.400  
 PANES = 1  
 GLASS-CONDUCTANCE = 0.360 ..

# \$ SPACE DESCRIPTION

CHAPEL =SPACE AREA = 3024.0 VOLUME = 60000.0  
 AZIMUTH = 225 TEMPERATURE = (68.)  
 ZONE-TYPE = CONDITIONED PEOPLE-SCHEDULE = Chapelschd  
 NUMBER-OF-PEOPLE = 150.0 PEOPLE-HEAT-GAIN = 660.0  
 LIGHTING-TYPE = SUS-FLUOR LIGHTING-KW = 2.57  
 LIGHTING-SCHEDULE = LIGHTS\_ON  
 EQUIP-SCHEDULE = APPLI\_ON EQUIPMENT-KW = 1.0  
 INF-METHOD = AIR-CHANGE AIR-CHANGES/HR = 0.66  
 INF-SCHEDULE = FULL\_ON ..

E-W HEIGHT = 16.0 WIDTH = 54.0 CONS = EXWALL  
 AZIMUTH = 225 ..

E-W HEIGHT = 16.0 WIDTH = 56.0 CONS = EXWALL  
 AZIMUTH = 135 ..

I-W HEIGHT = 16.0 WIDTH = 54.0 CONS = INWALL  
 AZIMUTH = 225 NEXT-TO = OFFICES ..

I-W HEIGHT = 16.0 WIDTH = 56.0 CONS = INWALL  
 AZIMUTH = 135 NEXT-TO = OFFICES ..

ROOF HEIGHT = 54.0 WIDTH = 56.0 CONS = ROOFCON  
 AZIMUTH = 225 TILT = 0 ..

U-W HEIGHT = 54.0 WIDTH = 56.0 CONS = FLOOR  
 AZIMUTH = 225 ..

OFFICES =SPACE AREA = 7048.0 VOLUME = 63432.0  
 AZIMUTH = 225 TEMPERATURE = (68.)  
 ZONE-TYPE = CONDITIONED PEOPLE-SCHEDULE = OCCUPANCY  
 NUMBER-OF-PEOPLE = 25.0 PEOPLE-HEAT-GAIN = 660.0  
 LIGHTING-TYPE = SUS-FLUOR LIGHTING-KW = 5.99  
 LIGHTING-SCHEDULE = LIGHTS\_ON  
 EQUIP-SCHEDULE = APPLI\_ON EQUIPMENT-KW = 5.0  
 INF-METHOD = AIR-CHANGE AIR-CHANGES/HR = 0.66  
 INF-SCHEDULE = FULL\_ON ..

E-W HEIGHT = 9.0 WIDTH = 37.0 CONS = EXWALL  
 AZIMUTH = 225 ..

DOOR HEIGHT = 8.0 WIDTH = 6.0 CONS = DOORCON ..

I-W HEIGHT = 9.0 WIDTH = 56.0 CONS = INWALL  
 AZIMUTH = 135 NEXT-TO = CHAPEL ..

I-W HEIGHT = 9.0 WIDTH = 54.0 CONS = INWALL  
 AZIMUTH = 225 NEXT-TO = CHAPEL ..

E-W HEIGHT = 9.0 WIDTH = 32.0 CONS = EXWALL  
 AZIMUTH = 225 ..

DOOR HEIGHT = 8.0 WIDTH = 3.0 CONS = DOORCON ..

E-W HEIGHT = 9.0 WIDTH = 65.0 CONS = EXWALL  
 AZIMUTH = 135 ..

DOOR HEIGHT = 8.0 WIDTH = 6.0 CONS = DOORCON ..

E-W HEIGHT = 9.0 WIDTH = 73.0 CONS = EXWALL  
 AZIMUTH = 45 ..

I-W HEIGHT = 9.0 WIDTH = 14.0 CONS = INWALL  
 AZIMUTH = 315 NEXT-TO = REL\_ED ..  
 I-W HEIGHT = 9.0 WIDTH = 16.0 CONS = INWALL  
 AZIMUTH = 45 NEXT-TO = REL\_ED ..  
 E-W HEIGHT = 9.0 WIDTH = 9.0 CONS = EXWALL  
 AZIMUTH = 45 ..  
 DOOR HEIGHT = 8.0 WIDTH = 6.0 CONS = DOORCON ..  
 E-W HEIGHT = 9.0 WIDTH = 42.0 CONS = EXWALL  
 AZIMUTH = 315 ..  
 DOOR HEIGHT = 8.0 WIDTH = 3.0 CONS = DOORCON ..  
 E-W HEIGHT = 9.0 WIDTH = 15.0 CONS = EXWALL  
 AZIMUTH = 45 ..  
 E-W HEIGHT = 9.0 WIDTH = 28.0 CONS = EXWALL  
 AZIMUTH = 315 ..  
 DOOR HEIGHT = 8.0 WIDTH = 9.0 CONS = DOORCON ..  
 E-W HEIGHT = 9.0 WIDTH = 11.0 CONS = EXWALL  
 AZIMUTH = 45 ..  
 E-W HEIGHT = 9.0 WIDTH = 28.0 CONS = EXWALL  
 AZIMUTH = 315 ..  
 ROOF HEIGHT = 84.0 WIDTH = 84.0 CONS = ROOFCON  
 AZIMUTH = 225 TILT = 0 ..  
 U-W HEIGHT = 84.0 WIDTH = 84.0 CONS = FLOOR  
 AZIMUTH = 225 ..

REL\_ED =SPACE AREA = 16159.0 VOLUME = 150000.0  
 AZIMUTH = 225 TEMPERATURE = (68.)  
 ZONE-TYPE = CONDITIONED PEOPLE-SCHEDULE = OCCUPANCY  
 NUMBER-OF-PEOPLE = 75.0 PEOPLE-HEAT-GAIN = 660.0  
 LIGHTING-TYPE = SUS-FLUOR LIGHTING-KW = 13.7  
 LIGHTING-SCHEDULE = LIGHTS ON  
 EQUIP-SCHEDULE = APPLI ON EQUIPMENT-KW = 7.0  
 INF-METHOD = AIR-CHANGE AIR-CHANGES/HR = 0.66  
 INF-SCHEDULE = FULL\_ON ..

E-W HEIGHT = 9.0 WIDTH = 88.0 CONS = EXWALL  
 AZIMUTH = 225 ..  
 WINDOW HEIGHT = 4.0 WIDTH = 2.0 G-T = GTYPE\_1  
 MULTIPLIER = 6.0 ..  
 DOOR HEIGHT = 8.0 WIDTH = 3.0 CONS = DOORCON  
 MULTIPLIER = 3.0 ..  
 E-W HEIGHT = 9.0 WIDTH = 35.0 CONS = EXWALL  
 AZIMUTH = 135 ..  
 E-W HEIGHT = 9.0 WIDTH = 57.0 CONS = EXWALL  
 AZIMUTH = 225 ..  
 DOOR HEIGHT = 8.0 WIDTH = 3.0 CONS = DOORCON  
 MULTIPLIER = 4.0 ..  
 E-W HEIGHT = 9.0 WIDTH = 85.0 CONS = EXWALL  
 AZIMUTH = 135 ..  
 WINDOW HEIGHT = 4.0 WIDTH = 2.0 G-T = GTYPE\_1  
 MULTIPLIER = 7.0 ..  
 DOOR HEIGHT = 8.0 WIDTH = 3.0 CONS = DOORCON ..  
 E-W HEIGHT = 9.0 WIDTH = 93.0 CONS = EXWALL  
 AZIMUTH = 45 ..  
 WINDOW HEIGHT = 4.0 WIDTH = 2.0 G-T = GTYPE\_1  
 MULTIPLIER = 8.0 ..  
 DOOR HEIGHT = 8.0 WIDTH = 4.0 CONS = DOORCON  
 MULTIPLIER = 2.0 ..  
 I-W HEIGHT = 9.0 WIDTH = 33.0 CONS = INWALL  
 AZIMUTH = 315 NEXT-TO = CHILD\_DEV ..  
 I-W HEIGHT = 9.0 WIDTH = 31.0 CONS = INWALL  
 AZIMUTH = 45 NEXT-TO = CHILD\_DEV ..  
 DOOR HEIGHT = 8.0 WIDTH = 3.0 CONS = DOORCON  
 MULTIPLIER = 2.0 ..  
 E-W HEIGHT = 9.0 WIDTH = 26.0 CONS = EXWALL  
 AZIMUTH = 315 ..  
 WINDOW HEIGHT = 5.0 WIDTH = 6.0 G-T = GTYPE\_1  
 MULTIPLIER = 2.0 ..  
 E-W HEIGHT = 9.0 WIDTH = 32.0 CONS = EXWALL  
 AZIMUTH = 45 ..  
 DOOR HEIGHT = 8.0 WIDTH = 3.0 CONS = DOORCON  
 MULTIPLIER = 2.0 ..  
 E-W HEIGHT = 8.0 WIDTH = 74.0 CONS = EXWALL  
 AZIMUTH = 315 ..  
 WINDOW HEIGHT = 4.0 WIDTH = 2.0 G-T = GTYPE\_1  
 MULTIPLIER = 4.0 ..

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WINDOW HEIGHT = 5.0  WIDTH = 6.0  G-T = GTYPE_1 ..
DOOR  HEIGHT = 8.0  WIDTH = 3.0  CONS = DOORCON
MULTIPLIER = 2.0  ..
ROOF  HEIGHT = 127.0  WIDTH = 127.0  CONS = ROOFCON
AZIMUTH = 225  TILT = 0  ..
U-W  HEIGHT = 127.0  WIDTH = 127.0  CONS = FLOOR
AZIMUTH = 225  ..
I-W  HEIGHT = 9.0  WIDTH = 14.0  CONS = INWALL
AZIMUTH = 225  NEXT-TO = OFFICES  ..
I-W  HEIGHT = 9.0  WIDTH = 16.0  CONS = INWALL
AZIMUTH = 135  NEXT-TO = OFFICES  ..

CHILD_DEV =SPACE  AREA = 24360.0  VOLUME = 219240.0
AZIMUTH = 225  TEMPERATURE = (68.)
ZONE-TYPE = CONDITIONED  PEOPLE-SCHEDULE = OCCUPANCY
NUMBER-OF-PEOPLE = 250.0  PEOPLE-HEAT-GAIN = 660.0
LIGHTING-TYPE = REC-FLUOR-RV  LIGHTING-KW = 20.7
LIGHTING-SCHEDULE = LIGHTS ON
EQUIP-SCHEDULE = APPLI ON  EQUIPMENT-KW = 23.0
INF-METHOD = AIR-CHANGE  AIR-CHANGES/HR = 0.66
INF-SCHEDULE = FULL_ON  ..

E-W  HEIGHT = 9.0  WIDTH = 176.0  CONS = EXWALL
AZIMUTH = 225  ..
DOOR  HEIGHT = 8.0  WIDTH = 3.0  CONS = DOORCON
MULTIPLIER = 6.0  ..
WINDOW HEIGHT = 4.0  WIDTH = 2.0  G-T = GTYPE_1
MULTIPLIER = 13.0  ..
I-W  HEIGHT = 9.0  WIDTH = 33.0  CONS = INWALL
AZIMUTH = 225  NEXT-TO = REL_ED  ..
E-W  HEIGHT = 9.0  WIDTH = 176.0  CONS = EXWALL
AZIMUTH = 135  ..
WINDOW HEIGHT = 5.0  WIDTH = 10.0  G-T = GTYPE_1
MULTIPLIER = 3.0  ..
WINDOW HEIGHT = 4.0  WIDTH = 2.0  G-T = GTYPE_1
MULTIPLIER = 6.0  ..
I-W  HEIGHT = 9.0  WIDTH = 33.0  CONS = INWALL
AZIMUTH = 135  NEXT-TO = REL_ED  ..
E-W  HEIGHT = 9.0  WIDTH = 70.0  CONS = EXWALL
AZIMUTH = 45  ..
WINDOW HEIGHT = 4.0  WIDTH = 2.0  G-T = GTYPE_1
MULTIPLIER = 2.0  ..
E-W  HEIGHT = 9.0  WIDTH = 139.0  CONS = EXWALL
AZIMUTH = 315  ..
E-W  HEIGHT = 9.0  WIDTH = 133.0  CONS = EXWALL
AZIMUTH = 45  ..
E-W  HEIGHT = 9.0  WIDTH = 70.0  CONS = EXWALL
AZIMUTH = 315  ..
ROOF  HEIGHT = 156.0  WIDTH = 156.0  CONS = ROOFCON
AZIMUTH = 225  TILT = 0  ..
U-W  HEIGHT = 156.0  WIDTH = 156.0  CONS = FLOOR
AZIMUTH = 225  ..

END ..
COMPUTE LOADS ..
INPUT SYSTEMS ..

```

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$-----$
$ E Z - D O B  S Y S T E M S  I N P U T $
$-----$

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#### \$ GENERAL PROJECT DATA

```

TITLE  LINE-1 *   EMC   ENGINEERS   INC.   *
        LINE-2 *BZDOE - ELITE SOFTWARE DEVELOPMENT INC*
        LINE-3 *   DENVER,   CO   80227   *
        LINE-4 *BLDG 10785, CHAPEL, REL ED, CHILD CARE *
        LINE-5 *MODEL WITH SETBACK, DDC, AND FORCED VENT* ..
ABORT   ERRORS ..
DIAGNOSTIC  WARNINGS ..
SYSTEMS-REPORT  SUMMARY=(SS-A,SS-B,SS-C,SS-F,SS-H,SS-K,SS-O) ..

```

#### \$ SCHEDULES

```

D_FULL    =DAY-SCHEDULE  (1,24) (1.) ..
D_OFF     =DAY-SCHEDULE  (1,24) (0.) ..
HEAT 68_D =DAY-SCHEDULE  (1,24) (68.) ..
FAN_WSBA_D =DAY-SCHEDULE  (1,6) (0.) ..
           (7,12) (1.) ..
           (13,24) (0.) ..
FAN_WSBB_D =DAY-SCHEDULE  (1,7) (0.) ..
           (8,11) (1.) ..
           (12,24) (0.) ..
FAN_WSBC_D =DAY-SCHEDULE  (1,4) (0.) ..

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(5,17) (1.)
(18,24) (0.) ..
HT68WSBA_D =DAY-SCHEDULE (1,6) (50.)
(7,12) (68.)
(13,24) (50.) ..
HT68WSBB_D =DAY-SCHEDULE (1,7) (50.)
(8,12) (68.)
(13,24) (50.) ..
HT68WSBC_D =DAY-SCHEDULE (1,4) (50.)
(5,17) (68.)
(18,24) (50.) ..
HEAT50_D =DAY-SCHEDULE (1,24) (50.) ..
MOA.49_A_D =DAY-SCHEDULE (1,7) (0.)
(8,12) (0.49)
(13,24) (0.) ..
MOA.49_B_D =DAY-SCHEDULE (1,8) (0.)
(9,11) (0.49)
(12,24) (0.) ..
MOA.31_A_D =DAY-SCHEDULE (1,7) (0.)
(8,12) (0.31)
(13,24) (0.) ..
MOA.31_C_D =DAY-SCHEDULE (1,5) (0.)
(6,17) (0.31)
(18,24) (0.) ..
MOA.18_C_D =DAY-SCHEDULE (1,5) (0.)
(6,17) (0.18)
(18,24) (0.) ..
MOA.26_C_D =DAY-SCHEDULE (1,5) (0.)
(6,17) (0.26)
(18,24) (0.) ..

W_FULL =WEEK-SCHEDULE (ALL) D_FULL ..
W_OFF =WEEK-SCHEDULE (ALL) D_OFF ..
HEAT_68_W =WEEK-SCHEDULE (ALL) HEAT_68_D ..
FAN_WSB1_W =WEEK-SCHEDULE (MON) D_OFF
(TUE) FAN_WSB_B_D
(WED) D_OFF
(THU) FAN_WSB_B_D
(FRI) D_OFF
(SAT) D_OFF
(SUN) FAN_WSB_A_D
(HOL) D_OFF ..
FAN_WSB2_W =WEEK-SCHEDULE (WD) FAN_WSB_C_D
(SAT) D_OFF
(SUN) FAN_WSB_A_D
(HOL) FAN_WSB_C_D ..
FAN_WSB3_W =WEEK-SCHEDULE (WD) FAN_WSB_C_D
(SAT) D_OFF
(SUN) D_OFF
(HOL) FAN_WSB_C_D ..
HT68WSB1_W =WEEK-SCHEDULE (MON) HEAT50_D
(TUE) HT68WSBB_D
(WED) HEAT50_D
(THU) HT68WSBB_D
(FRI) HEAT50_D
(SAT) HEAT50_D
(SUN) HT68WSBA_D
(HOL) HT68WSBA_D ..
HT68WSB2_W =WEEK-SCHEDULE (WD) HT68WSBC_D
(SAT) HEAT50_D
(SUN) HT68WSBA_D
(HOL) HT68WSBC_D ..
HT68WSB3_W =WEEK-SCHEDULE (WD) HT68WSBC_D
(SAT) HEAT50_D
(SUN) HEAT50_D
(HOL) HT68WSBC_D ..
MOA.02_W =WEEK-SCHEDULE (MON) D_OFF
(TUE) MOA.49_B_D
(WED) D_OFF
(THU) MOA.49_B_D
(FRI) D_OFF
(SAT) D_OFF
(SUN) MOA.49_A_D
(HOL) D_OFF ..
MOA.24_W =WEEK-SCHEDULE (WD) MOA.31_C_D
(SAT) D_OFF
(SUN) MOA.31_A_D
(HOL) MOA.31_C_D ..
MOA.18_W =WEEK-SCHEDULE (WD) MOA.18_C_D
(SAT) D_OFF
(SUN) D_OFF
(HOL) MOA.18_C_D ..
MOA.26_W =WEEK-SCHEDULE (WD) MOA.26_C_D
(SAT) D_OFF
(SUN) D_OFF
(HOL) MOA.26_C_D ..

FULL_ON =SCHEDULE THRU DEC 31 W_FULL ..
FULL_OFF =SCHEDULE THRU DEC 31 W_OFF ..
$ HEATING TEMPERATURE SET
HEAT_68 =SCHEDULE THRU DEC 31 HEAT_68_W ..
$ CHAPEL FAN SET BACK

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FAN_W_SB_1 =SCHEDULE THRU DEC 31 FAN_WSB1_W ..
$ OFFICES FAN SET BACK
FAN_W_SB_2 =SCHEDULE THRU DEC 31 FAN_WSB2_W ..
$ CHILD DEV & REL ED SB
FAN_W_SB_3 =SCHEDULE THRU DEC 31 FAN_WSB3_W ..
$ CHAPEL HEAT SET BACK
HT68_W_SB1 =SCHEDULE THRU DEC 31 HT68WSB1_W ..
$ OFFICES HEAT SET BACK
HT68_WSB_2 =SCHEDULE THRU DEC 31 HT68WSB2_W ..
$ CHLD DEV & REL ED HT SB
HT68_W_SB3 =SCHEDULE THRU DEC 31 HT68WSB3_W ..
$ FORCED VENTILATION
MOA.02_FV =SCHEDULE THRU DEC 31 MOA.02_W ..
$ FORCED VENTILATION
MOA.24_FV =SCHEDULE THRU DEC 31 MOA.24_W ..
$ FORCED VENTILATION
MOA.18_FV =SCHEDULE THRU DEC 31 MOA.18_W ..
$ FORCED VENTILATION
MOA.26_FV =SCHEDULE THRU DEC 31 MOA.26_W ..

```

#### \$ ZONE DESCRIPTION

```

CHAPEL      =ZONE  DESIGN-HEAT-T = 68.0 DESIGN-COOL-T = 85.0
                HEAT-TEMP-SCH = HT68_W_SB1 ZONE-TYPE = CONDITIONED
                THERMOSTAT-TYPE = PROPORTIONAL
                BASEBOARD-CTRL = THERMOSTATIC
                BASEBOARD-RATING = -53724. ASSIGNED-CFM = 4100.
                OUTSIDE-AIR-CFM = 2000. SIZING-OPTION = FROM-LOADS ..

OFFICES     =ZONE  DESIGN-HEAT-T = 68.0 DESIGN-COOL-T = 85.0
                HEAT-TEMP-SCH = HT68_WSB_2 ZONE-TYPE = CONDITIONED
                THERMOSTAT-TYPE = PROPORTIONAL
                BASEBOARD-CTRL = THERMOSTATIC
                BASEBOARD-RATING = -125356. ASSIGNED-CFM = 2900.
                OUTSIDE-AIR-CFM = 900. SIZING-OPTION = FROM-LOADS ..

REL_ED      =ZONE  DESIGN-HEAT-T = 68.0 DESIGN-COOL-T = 85.0
                HEAT-TEMP-SCH = HT68_W_SB3 ZONE-TYPE = CONDITIONED
                THERMOSTAT-TYPE = PROPORTIONAL
                BASEBOARD-CTRL = THERMOSTATIC
                BASEBOARD-RATING = -286528. ASSIGNED-CFM = 8075.
                OUTSIDE-AIR-CFM = 1200. SIZING-OPTION = FROM-LOADS ..

CHILD_DEV   =ZONE  DESIGN-HEAT-T = 68.0 DESIGN-COOL-T = 85.0
                HEAT-TEMP-SCH = HT68_W_SB3 ZONE-TYPE = CONDITIONED
                THERMOSTAT-TYPE = PROPORTIONAL
                BASEBOARD-CTRL = THERMOSTATIC
                BASEBOARD-RATING = -429792. ASSIGNED-CFM = 14950.
                OUTSIDE-AIR-CFM = 3850. SIZING-OPTION = FROM-LOADS
                EXHAUST-CFM = 2050.0 ..

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#### \$ SYSTEM DESCRIPTION

```

AHU_1       =SYSTEM  SYSTEM-TYPE = HVSYS
                MAX-SUPPLY-T = 120.0 HEATING-SCHEDULE = FULL_ON
                MIN-HUMIDITY = 30.0 ECONO-LIMIT-T = 65.0
                ECONO-LOW-LIMIT = 55.0 HEAT-CONTROL = COLDEST
                SUPPLY-CFM = 4100. RETURN-CFM = 2100.
                RATED-CFM = 4100. MIN-OUTSIDE-AIR = 0.49
                MIN-AIR-SCH = MOA.02_FV FAN-SCHEDULE = FAN_W_SB_1
                SUPPLY-DELTA-T = 2.4 SUPPLY-KW = 0.0011
                MOTOR-PLACEMENT = OUTSIDE-AIRFLOW
                NIGHT-CYCLE-CTRL = CYCLE-ON-ANY NIGHT-VENT-DT = 0.0
                HEATING-CAPACITY = -235700. FURNACE-AUX = 0.
                ZONE-NAMES = (CHAPEL) ..

AHU_2       =SYSTEM  SYSTEM-TYPE = HVSYS
                MAX-SUPPLY-T = 120.0 HEATING-SCHEDULE = FULL_ON
                MIN-HUMIDITY = 30.0 ECONO-LIMIT-T = 66.0
                ECONO-LOW-LIMIT = 55.0 HEAT-CONTROL = COLDEST
                SUPPLY-CFM = 2900. RETURN-CFM = 2000.
                RATED-CFM = 2900. MIN-OUTSIDE-AIR = 0.31
                MIN-AIR-SCH = MOA.24_FV FAN-SCHEDULE = FAN_W_SB_2
                SUPPLY-DELTA-T = 2.4 SUPPLY-KW = 0.0011
                MOTOR-PLACEMENT = OUTSIDE-AIRFLOW
                NIGHT-CYCLE-CTRL = CYCLE-ON-ANY NIGHT-VENT-DT = 0.0
                HEATING-CAPACITY = -90500. FURNACE-AUX = 0.
                ZONE-NAMES = (OFFICES) ..

AHU_3-5     =SYSTEM  SYSTEM-TYPE = HVSYS
                MAX-SUPPLY-T = 120.0 HEATING-SCHEDULE = FULL_ON
                MIN-HUMIDITY = 30.0 ECONO-LIMIT-T = 65.0
                ECONO-LOW-LIMIT = 55.0 HEAT-CONTROL = COLDEST
                SUPPLY-CFM = 8075. RETURN-CFM = 6875.
                RATED-CFM = 8075. MIN-OUTSIDE-AIR = 0.18
                MIN-AIR-SCH = MOA.18_FV FAN-SCHEDULE = FAN_W_SB_3
                SUPPLY-DELTA-T = 2.4 SUPPLY-KW = 0.0011
                MOTOR-PLACEMENT = OUTSIDE-AIRFLOW
                NIGHT-CYCLE-CTRL = CYCLE-ON-ANY NIGHT-VENT-DT = 0.0
                HEATING-CAPACITY = -202900. FURNACE-AUX = 0.
                ZONE-NAMES = (REL_ED) ..

AHU_6-10    =SYSTEM  SYSTEM-TYPE = HVSYS
                MAX-SUPPLY-T = 120.0 HEATING-SCHEDULE = FULL_ON
                MIN-HUMIDITY = 30.0 ECONO-LIMIT-T = 65.0
                ECONO-LOW-LIMIT = 55.0 HEAT-CONTROL = COLDEST

```

SUPPLY-CFM = 14950. RETURN-CFM = 11100.  
 RATED-CFM = 14950. MIN-OUTSIDE-AIR = 0.26  
 MIN-AIR-SCH = MOA.26 FV RECOVERY-EFF = 0.33  
 FAN-SCHEDULE = FAN\_W\_SB\_3 SUPPLY-DELTA-T = 2.4  
 SUPPLY-KW = 0.0011  
 MOTOR-PLACEMENT = OUTSIDE-AIRFLOW  
 NIGHT-CYCLE-CTRL = CYCLE-ON-ANY NIGHT-VENT-DT = 0.0  
 HEATING-CAPACITY = -585500. FURNACE-AUX = 0.  
 ZONE-NAMES = (CHILD\_DEV) ..

# \$ HOURLY REPORT DESCRIPTION

SYST1 =REPORT-BLOCK VARIABLE-TYPE = AHU 1  
 VARIABLE-LIST = (5,7,9,10,17,20) ..  
 SYST2 =REPORT-BLOCK VARIABLE-TYPE = CHAPEL  
 VARIABLE-LIST = (6) ..  
 REP1 = HOURLY-REPORT REPORT-SCHEDULE = FULL ON  
 REPORT-BLOCK = (SYST1,SYST2)  
 ..  
 END ..  
 COMPUTE SYSTEMS ..  
 INPUT PLANT ..

\$-----\$  
 \$ E Z - D O E P L A N T S I N P U T \$  
 \$-----\$

# \$ GENERAL PROJECT DATA

TITLE LINE-1 \* EMC ENGINEERS INC. \*  
 LINE-2 \*EZDOE - ELITE SOFTWARE DEVELOPMENT INC\*  
 LINE-3 \* DENVER, CO 80227 \*  
 LINE-4 \*BLDG 10785, CHAPEL, REL ED, CHILD CARE \*  
 LINE-5 \*MODEL WITH SETBACK, DDC, AND FORCED VENT\* ..

ABORT ERRORS ..  
 DIAGNOSTIC WARNINGS ..  
 PLANT-REPORT SUMMARY=(PS-A,PS-B,PS-H,BEPS)  
 ..

# \$ SCHEDULES

DAY\_ON =DAY-SCHEDULE (1,7) (0.)  
 (8,18) (1.)  
 (19,24) (0.) ..

FULL\_ON =WEEK-SCHEDULE (ALL) DAY\_ON ..

\$ heating plant schedule  
 heating =SCHEDULE THRU DEC 31 FULL\_ON ..

# \$ EQUIPMENT DESCRIPTION

DHW =PLANT-EQUIPMENT TYPE = HTANK-STORAGE  
 SIZE = 0.7 ..  
 HEATEXCHAN =PLANT-EQUIPMENT TYPE = HTANK-STORAGE  
 SIZE = 2. ..  
 PLANT-PARAMETERS MAKEUP-WTR-T = 50. STM-BOILER-HIR = 0.76  
 HW-BOILER-HIR = 1.27 CHILLER-CONTROL = STANDBY  
 OPEN-REC-COND-TYPE = AIR HERM-REC-COND-TYPE = AIR  
 COMP-TO-TWR-WTR = 2.77 CCIRC-HEAD = 100.0  
 HCIRC-HEAD = 40.0 ..  
 PART-LOAD-RATIO TYPE = HW-BOILER  
 MIN-RATIO = 0.2500 MAX-RATIO = 1.0000  
 OPERATING-RATIO = 1.0000 ELEC-INPUT-RATIO = 0.0220 ..  
 ENERGY-RESOURCE RESOURCE = STEAM SOURCE-SITE-EFF = 1.000 ..  
 ENERGY-RESOURCE RESOURCE = ELECTRICITY ..  
 ENERGY-STORAGE HEAT-STORE-RATE = 2.75 HEAT-SUPPLY-RATE = 2.75  
 HTANK-BASE-T = 210.0 HTANK-T-RANGE = 15.6  
 HEAT-STORE-SCH = heating ..  
 HEAT-RECOVERY  
 SUPPLY-1 = (HTANK-STORAGE)  
 DEMAND-1 = (SPACE-HEAT) ..

END ..  
 COMPUTE PLANT ..  
 STOP ..

ENERGY TYPE IN SITE MBTU-	STEAM	ELECTRICITY	RECOVERED
CATEGORY OF USE			
SPACE HEAT	1,863.19	0.00	0.00
SPACE COOL	0.00	0.00	0.00
HVAC AUX	0.00	363.41	0.00
DOM HOT WTR	0.00	0.00	0.00
AUX SOLAR	0.00	0.00	0.00
LIGHTS	0.00	444.19	0.00
VERT TRANS	0.00	0.00	0.00
MISC EQUIP	0.00	385.71	0.00
	-----	-----	-----
TOTAL	1,863.19	1,193.32	0.00

TOTAL SITE ENERGY 3056.49 MBTU 60.4 KBTU/SQFT-YR GROSS-AREA 60.4 KBTU/SQFT-YR NET-AREA  
 TOTAL SOURCE ENERGY 5446.66 MBTU 107.7 KBTU/SQFT-YR GROSS-AREA 107.7 KBTU/SQFT-YR NET-AREA

PERCENT OF HOURS ANY SYSTEM ZONE OUTSIDE OF THROTTLING RANGE = 9.9  
 PERCENT OF HOURS ANY PLANT LOAD NOT SATISFIED = 0.0

NOTE ELECTRICITY AND/OR FUEL USED TO GENERATE ELECTRICITY IS APPORTIONED BASED  
 ON THE YEARLY DEMAND. ALL OTHER ENERGY TYPES ARE APPORTIONED HOURLY.



EMC ENGINEERS INC. E2DOE - ELITE SOFTWARE DEVELOPMENT INC DOB-2.1D 3/21/1995 18: 2:30 PDL RUN 1  
 DENVER, CO 80227 BLDG 10785, CHAPEL, RRL ED, CHILD CARE MODEL WITH SETBACK, DDC, AND FORCED VENT  
 REPORT- PS-B MONTHLY PEAK AND TOTAL ENERGY USE WEATHER FILE- MASSENA, NY

MO	UTILITY-	STEAM	ELECTRICITY
	TOTAL (MBTU)	405.724	101.642
JAN	PEAK (KBTU)	2153.552	289.659
	DY/HR	6/ 9	6/12
	TOTAL (MBTU)	311.753	92.717
FEB	PEAK (KBTU)	1780.896	274.260
	DY/HR	14/ 6	28/17
	TOTAL (MBTU)	316.930	103.343
MAR	PEAK (KBTU)	1772.636	274.260
	DY/HR	28/ 6	31/17
	TOTAL (MBTU)	161.945	97.511
APR	PEAK (KBTU)	1482.400	274.260
	DY/HR	4/ 6	29/17
	TOTAL (MBTU)	81.709	101.106
MAY	PEAK (KBTU)	1105.559	274.260
	DY/HR	2/ 6	30/12
	TOTAL (MBTU)	9.895	98.040
JUN	PEAK (KBTU)	435.955	274.260
	DY/HR	8/ 6	29/16
	TOTAL (MBTU)	1.112	98.642
JUL	PEAK (KBTU)	40.085	274.260
	DY/HR	25/ 6	22/16
	TOTAL (MBTU)	2.830	101.242
AUG	PEAK (KBTU)	76.320	274.260
	DY/HR	30/ 9	30/17
	TOTAL (MBTU)	20.946	98.236
SEP	PEAK (KBTU)	468.676	274.260
	DY/HR	23/ 6	29/17
	TOTAL (MBTU)	82.230	99.916
OCT	PEAK (KBTU)	810.871	274.260
	DY/HR	21/ 6	31/17
	TOTAL (MBTU)	176.708	98.970
NOV	PEAK (KBTU)	1665.650	274.260
	DY/HR	28/ 6	30/17
	TOTAL (MBTU)	291.410	101.930
DEC	PEAK (KBTU)	1757.921	274.260
	DY/HR	5/ 6	30/17
	ONE YEAR	1863.192	1193.295
	USE/PEAK	2153.552	289.659

**COMPUTER SIMULATIONS**

BUILDING 11050

**COMPUTER SIMULATIONS**  
BUILDING 11050

BASE RUN

# LDL PROCESSOR INPUT DATA

3/19/1995 13:13:10 LDL RUN 1

```

* 3 *
* 4 *
* 5 *      $-----$
* 6 *      $EZ-DOE LOADS INPUT$
* 7 *      $-----$
* 8 *
* 9 *      $ GENERAL PROJECT DATA
* 10 *
* 11 *TITLE LINE-1* EMC ENGINEERS INC. *
* 12 * LINE-2 *EZDOE - ELITE SOFTWARE DEVELOPMENT INC*
* 13 * LINE-3* DENVER, CO 80227 *
* 14 *
* 15 * LINE-4 *BUILDING 11050, AMBULATORY HEALTH CARE *
* 16 * LINE-5 *CLINIC & MED LOGISTICS/STOR - BASE MODEL* ..
* 17 *
* 18 *ABORT      ERRORS ..
* 19 *DIAGNOSTIC  WARNINGS ..
* 20 *LOADS-REPORT SUMMARY=(LS-C,LS-D) ..
* 21 *BUILDING-LOCATION X-REF = 0.0
* 22 *          Y-REF = 0.0 ..
* 23 *RUN-PERIOD  JAN 1 1994 THRU DEC 31 1994 ..
* 24 *
* 25 *
* 26 *      $ SCHEDULES
* 27 *
* 28 *FULL_ON_D =DAY-SCHEDULE (1,24) (1.) ..
* 29 *
* 30 *FULL_OFF_D =DAY-SCHEDULE (1,24) (0.) ..
* 31 *
* 32 *PEOPLE_D =DAY-SCHEDULE (1,5) (0.)
* 33 *      (6,7) (0.5)
* 34 *      (8,9) (0.6,0.9)
* 35 *      (10,12) (1.)
* 36 *      (13,18) (0.9)
* 37 *      (19,20) (1.)
* 38 *      (21) (0.3)
* 39 *      (22,24) (0.) ..
* 40 *
* 41 *LIGHT_ON_D =DAY-SCHEDULE (1,5) (0.1)
* 42 *      (6,10) (0.2,0.6,0.7,0.8,0.6)
* 43 *      (11) (0.4)
* 44 *      (12,13) (0.6)
* 45 *      (14,17) (0.5)

```

\* 46 \* (18,19) (0.7)  
 \* 47 \* (20,22) (0.8,0.5,0.3)  
 \* 48 \* (23,24) (0.1) ..  
 \* 49 \*  
 \* 50 \* STRLZR\_D =DAY-SCHEDULE (1,6) (0.)  
 \* 51 \* (7) (1.)  
 \* 52 \* (8,24) (0.) ..  
 \* 53 \*  
 \* 54 \*  
 \* 55 \* FULL\_ON\_W =WEEK-SCHEDULE (ALL) FULL\_ON\_D ..  
 \* 56 \*  
 \* 57 \* FULL\_OFF\_W =WEEK-SCHEDULE (ALL) FULL\_OFF\_D ..  
 \* 58 \*  
 \* 59 \* PEOPLE\_W =WEEK-SCHEDULE (ALL) PEOPLE\_D ..  
 \* 60 \*  
 \* 61 \* LIGHT\_ON\_W =WEEK-SCHEDULE (ALL) LIGHT\_ON\_D ..  
 \* 62 \*  
 \* 63 \* STRLZER\_W =WEEK-SCHEDULE (ALL) STRLZR\_D ..  
 \* 64 \*  
 \* 65 \*  
 \* 66 \* \$ FULL ON SCHEDULE  
 \* 67 \* FULL\_ON =SCHEDULE THRU DEC 31 FULL\_ON\_W ..  
 \* 68 \*  
 \* 69 \* \$ FULL OFF SCHEDULE  
 \* 70 \* FULL\_OFF =SCHEDULE THRU DEC 31 FULL\_OFF\_W ..  
 \* 71 \*  
 \* 72 \* \$ OCCUPANCY SCHEDULE  
 \* 73 \* PEOPLE\_Y =SCHEDULE THRU DEC 31 PEOPLE\_W ..  
 \* 74 \*  
 \* 75 \* \$ LIGHTING SCHEDULE  
 \* 76 \* LIGHT\_SCHD =SCHEDULE THRU DEC 31 LIGHT\_ON\_W ..  
 \* 77 \*  
 \* 78 \* \$ STERILIZER SCHEDULE  
 \* 79 \* STRLZR\_Y =SCHEDULE THRU DEC 31 STRLZER\_W ..  
 \* 80 \*  
 \* 81 \*  
 \* 82 \*  
 \* 83 \* \$ CONSTRUCTION TYPES  
 \* 84 \*  
 \* 85 \*  
 \* 86 \*  
 \* 87 \* FLOORCON =CONSTRUCTION U-VALUE = 0.100 ..  
 \* 88 \* ROOF\_CON =CONSTRUCTION U-VALUE = 0.030 ..  
 \* 89 \* WALL\_CON =CONSTRUCTION U-VALUE = 0.140 ..  
 \* 90 \* DOOR\_CON =CONSTRUCTION U-VALUE = 1.000 ..  
 \* 91 \*  
 \* 92 \* GTYPE1 =GLASS-TYPE GLASS-TYPE-CODE = 1  
 \* 93 \* PANES = 1  
 \* 94 \* GLASS-CONDUCTANCE = 1.130 ..  
 \* 95 \*

```

* 96 *
* 97 *
* 98 *
* 99 *      $ SPACE DESCRIPTION
* 100 *
* 101 * CLINIC_SW =SPACE  AREA = 8284.0 VOLUME = 66272.0
* 102 *      AZIMUTH = 315  TEMPERATURE = (72.5)
* 103 *      ZONE-TYPE = CONDITIONED  PEOPLE-SCHEDULE = PEOPLE_Y
* 104 *      NUMBER-OF-PEOPLE = 100.0  PEOPLE-HEAT-GAIN = 450.0
* 105 *      PEOPLE-HG-SENS = 1.0  LIGHTING-TYPE = REC-FLUOR-RV
* 106 *      LIGHTING-W/SQFT = 1.64
* 107 *      LIGHTING-SCHEDULE = LIGHT_SCHD
* 108 *      EQUIP-SCHEDULE = PEOPLE_Y  EQUIPMENT-KW = 20.0
* 109 *      EQUIP-SENSIBLE = 0.3  SOURCE-SCHEDULE = FULL_ON
* 110 *      SOURCE-TYPE = HOT-WATER  SOURCE-BTU/HR = 85160.0
* 111 *      SOURCE-SENSIBLE = 0.1  SOURCE-LATENT = 0.05
* 112 *      INF-METHOD = AIR-CHANGE  AIR-CHANGES/HR = 0.33
* 113 *      INF-SCHEDULE = FULL_ON  ..
* 114 *
* 115 *      U-W  HEIGHT = 148.5  WIDTH = 55.8  CONS = FLOORCON
* 116 *      AZIMUTH = 315  ..
* 117 *
* 118 *      ROOF  HEIGHT = 148.5  WIDTH = 55.8  CONS = ROOF_CON
* 119 *      AZIMUTH = 315  TILT = 0  ..
* 120 *
* 121 *      E-W  HEIGHT = 8.0  WIDTH = 11.0  CONS = WALL_CON
* 122 *      AZIMUTH = 135  ..
* 123 *
* 124 *      E-W  HEIGHT = 8.0  WIDTH = 148.5  CONS = WALL_CON
* 125 *      AZIMUTH = 225  ..
* 126 *
* 127 *      DOOR  HEIGHT = 7.5  WIDTH = 3.0  CONS = DOOR_CON
* 128 *      MULTIPLIER = 3.0  ..
* 129 *
* 130 *      WINDOW HEIGHT = 4.0  WIDTH = 2.5  G-T = GTYPE1
* 131 *      MULTIPLIER = 3.0  ..
* 132 *
* 133 *      WINDOW HEIGHT = 4.0  WIDTH = 2.5  G-T = GTYPE1
* 134 *      MULTIPLIER = 23.0  ..
* 135 *
* 136 *      E-W  HEIGHT = 8.0  WIDTH = 3.0  CONS = WALL_CON
* 137 *      AZIMUTH = 315  ..
* 138 *
* 139 *
* 140 * CLINIC_NW =SPACE  AREA = 3048.0 VOLUME = 24384.0
* 141 *      AZIMUTH = 315  TEMPERATURE = (72.5)
* 142 *      ZONE-TYPE = CONDITIONED  PEOPLE-SCHEDULE = PEOPLE_Y
* 143 *      NUMBER-OF-PEOPLE = 100.0  PEOPLE-HEAT-GAIN = 450.0
* 144 *      PEOPLE-HG-SENS = 1.0  LIGHTING-TYPE = REC-FLUOR-RV
* 145 *      LIGHTING-W/SQFT = 1.64

```

\* 146 \* LIGHTING-SCHEDULE = LIGHT\_SCHD  
 \* 147 \* EQUIP-SCHEDULE = FULL\_ON EQUIPMENT-KW = 20.0  
 \* 148 \* EQUIP-SENSIBLE = 0.3 INF-METHOD = AIR-CHANGE  
 \* 149 \* AIR-CHANGES/HR = 0.33 INF-SCHEDULE = FULL\_ON ..  
 \* 150 \*  
 \* 151 \* U-W HEIGHT = 84.0 WIDTH = 36.3 CONS = FLOORCON  
 \* 152 \* AZIMUTH = 315 ..  
 \* 153 \*  
 \* 154 \* ROOF HEIGHT = 84.0 WIDTH = 36.3 CONS = ROOF\_CON  
 \* 155 \* AZIMUTH = 315 TILT = 0 ..  
 \* 156 \*  
 \* 157 \* E-W HEIGHT = 8.0 WIDTH = 104.0 CONS = WALL\_CON  
 \* 158 \* AZIMUTH = 225 ..  
 \* 159 \*  
 \* 160 \* DOOR HEIGHT = 7.5 WIDTH = 3.0 CONS = DOOR\_CON  
 \* 161 \* MULTIPLIER = 2.0 ..  
 \* 162 \*  
 \* 163 \* WINDOW HEIGHT = 4.0 WIDTH = 2.5 G-T = GTYPE1  
 \* 164 \* MULTIPLIER = 12.0 ..  
 \* 165 \*  
 \* 166 \* E-W HEIGHT = 8.0 WIDTH = 5.0 CONS = WALL\_CON  
 \* 167 \* AZIMUTH = 135 ..  
 \* 168 \*  
 \* 169 \* E-W HEIGHT = 8.0 WIDTH = 55.5 CONS = WALL\_CON  
 \* 170 \* AZIMUTH = 315 ..  
 \* 171 \*  
 \* 172 \* DOOR HEIGHT = 7.5 WIDTH = 3.0 CONS = DOOR\_CON  
 \* 173 \* MULTIPLIER = 2.0 ..  
 \* 174 \*  
 \* 175 \*  
 \* 176 \* OPER\_ROOMS =SPACE AREA = 880.0 VOLUME = 7040.0  
 \* 177 \* AZIMUTH = 315 TEMPERATURE = (72.5)  
 \* 178 \* ZONE-TYPE = CONDITIONED PEOPLE-SCHEDULE = PEOPLE\_Y  
 \* 179 \* NUMBER-OF-PEOPLE = 20.0 PEOPLE-HEAT-GAIN = 450.0  
 \* 180 \* PEOPLE-HG-SENS = 1.0 LIGHTING-TYPE = REC-FLUOR-RV  
 \* 181 \* LIGHTING-W/SQFT = 1.64  
 \* 182 \* LIGHTING-SCHEDULE = LIGHT\_SCHD  
 \* 183 \* EQUIP-SCHEDULE = PEOPLE\_Y EQUIPMENT-KW = 5.0  
 \* 184 \* EQUIP-SENSIBLE = 0.3 INF-METHOD = NONE ..  
 \* 185 \*  
 \* 186 \* U-W HEIGHT = 29.7 WIDTH = 29.7 CONS = FLOORCON  
 \* 187 \* AZIMUTH = 315 ..  
 \* 188 \*  
 \* 189 \* ROOF HEIGHT = 29.7 WIDTH = 29.7 CONS = ROOF\_CON  
 \* 190 \* AZIMUTH = 315 TILT = 0 ..  
 \* 191 \*  
 \* 192 \*  
 \* 193 \* CLINIC\_N =SPACE AREA = 5350.0 VOLUME = 42800.0  
 \* 194 \* AZIMUTH = 315 TEMPERATURE = (72.5)  
 \* 195 \* ZONE-TYPE = CONDITIONED PEOPLE-SCHEDULE = PEOPLE\_Y

\* 196 \*           NUMBER-OF-PEOPLE = 100.0 PEOPLE-HEAT-GAIN = 450.0  
 \* 197 \*           PEOPLE-HG-SENS = 1.0 LIGHTING-TYPE = REC-FLUOR-RV  
 \* 198 \*           LIGHTING-W/SQFT = 1.64  
 \* 199 \*           LIGHTING-SCHEDULE = LIGHT\_SCHD  
 \* 200 \*           EQUIP-SCHEDULE = PEOPLE\_Y EQUIPMENT-KW = 20.0  
 \* 201 \*           EQUIP-SENSIBLE = 0.3 SOURCE-SENSIBLE = 0.0  
 \* 202 \*           INF-METHOD = AIR-CHANGE AIR-CHANGES/HR = 0.33  
 \* 203 \*           INF-SCHEDULE = FULL\_ON ..  
 \* 204 \*  
 \* 205 \*       U-W    HEIGHT = 73.1 WIDTH = 73.1 CONS = FLOORCON  
 \* 206 \*           AZIMUTH = 315 ..  
 \* 207 \*  
 \* 208 \*       ROOF   HEIGHT = 73.1 WIDTH = 73.1 CONS = ROOF\_CON  
 \* 209 \*           AZIMUTH = 315 TILT = 0 ..  
 \* 210 \*  
 \* 211 \*  
 \* 212 \* CLINIC\_NE =SPACE   AREA = 17116.0 VOLUME = 136924.0  
 \* 213 \*           AZIMUTH = 315 TEMPERATURE = (72.5)  
 \* 214 \*           ZONE-TYPE = CONDITIONED PEOPLE-SCHEDULE = PEOPLE\_Y  
 \* 215 \*           NUMBER-OF-PEOPLE = 100.0 PEOPLE-HEAT-GAIN = 450.0  
 \* 216 \*           PEOPLE-HG-SENS = 1.0 LIGHTING-TYPE = REC-FLUOR-RV  
 \* 217 \*           LIGHTING-W/SQFT = 1.64  
 \* 218 \*           LIGHTING-SCHEDULE = LIGHT\_SCHD  
 \* 219 \*           EQUIP-SCHEDULE = PEOPLE\_Y EQUIPMENT-KW = 20.0  
 \* 220 \*           EQUIP-SENSIBLE = 0.3 INF-METHOD = AIR-CHANGE  
 \* 221 \*           AIR-CHANGES/HR = 0.33 INF-SCHEDULE = FULL\_ON ..  
 \* 222 \*  
 \* 223 \*       U-W    HEIGHT = 157.0 WIDTH = 109.0 CONS = FLOORCON  
 \* 224 \*           AZIMUTH = 315 ..  
 \* 225 \*  
 \* 226 \*       ROOF   HEIGHT = 157.0 WIDTH = 109.0 CONS = ROOF\_CON  
 \* 227 \*           AZIMUTH = 315 TILT = 0 ..  
 \* 228 \*  
 \* 229 \*       E-W    HEIGHT = 8.0 WIDTH = 157.0 CONS = WALL\_CON  
 \* 230 \*           AZIMUTH = 45 ..  
 \* 231 \*  
 \* 232 \*       DOOR   HEIGHT = 7.5 WIDTH = 3.0 CONS = DOOR\_CON  
 \* 233 \*           MULTIPLIER = 2.0 ..  
 \* 234 \*  
 \* 235 \*       DOOR   HEIGHT = 11.0 WIDTH = 12.0 CONS = DOOR\_CON ..  
 \* 236 \*  
 \* 237 \*       E-W    HEIGHT = 8.0 WIDTH = 109.0 CONS = WALL\_CON  
 \* 238 \*           AZIMUTH = 315 ..  
 \* 239 \*  
 \* 240 \*       DOOR   HEIGHT = 11.0 WIDTH = 12.0 CONS = DOOR\_CON ..  
 \* 241 \*  
 \* 242 \*       DOOR   HEIGHT = 7.5 WIDTH = 3.0 CONS = DOOR\_CON  
 \* 243 \*           MULTIPLIER = 6.0 ..  
 \* 244 \*  
 \* 245 \*       E-W    HEIGHT = 8.0 WIDTH = 19.0 CONS = WALL\_CON



\* 246 \*           AZIMUTH = 225 ..  
 \* 247 \*  
 \* 248 \*           DOOR HEIGHT = 7.5 WIDTH = 3.0 CONS = DOOR\_CON  
 \* 249 \*           MULTIPLIER = 2.0 ..  
 \* 250 \*  
 \* 251 \*  
 \* 252 \* CLINIC\_S =SPACE AREA = 19956.0 VOLUME = 159648.0  
 \* 253 \*           AZIMUTH = 315 TEMPERATURE = (72.5)  
 \* 254 \*           ZONE-TYPE = CONDITIONED PEOPLE-SCHEDULE = PEOPLE\_Y  
 \* 255 \*           NUMBER-OF-PEOPLE = 100.0 PEOPLE-HEAT-GAIN = 450.0  
 \* 256 \*           PEOPLE-HG-SENS = 1.0 LIGHTING-TYPE = REC-FLUOR-RV  
 \* 257 \*           LIGHTING-W/SQFT = 1.64  
 \* 258 \*           LIGHTING-SCHEDULE = LIGHT\_SCHD  
 \* 259 \*           EQUIP-SCHEDULE = PEOPLE\_Y EQUIPMENT-KW = 20.0  
 \* 260 \*           EQUIP-SENSIBLE = 0.3 INF-METHOD = AIR-CHANGE  
 \* 261 \*           AIR-CHANGES/HR = 0.33 INF-SCHEDULE = FULL\_ON ..  
 \* 262 \*  
 \* 263 \*           U-W HEIGHT = 89.9 WIDTH = 222.0 CONS = FLOORCON  
 \* 264 \*           AZIMUTH = 315 ..  
 \* 265 \*  
 \* 266 \*           ROOF HEIGHT = 89.9 WIDTH = 222.0 CONS = ROOF\_CON  
 \* 267 \*           AZIMUTH = 315 TILT = 0 ..  
 \* 268 \*  
 \* 269 \*           E-W HEIGHT = 8.0 WIDTH = 222.0 CONS = WALL\_CON  
 \* 270 \*           AZIMUTH = 135 TILT = 0 ..  
 \* 271 \*  
 \* 272 \*           WINDOW HEIGHT = 4.0 WIDTH = 2.5 G-T = GTYPE1  
 \* 273 \*           MULTIPLIER = 30.0 ..  
 \* 274 \*  
 \* 275 \*           DOOR HEIGHT = 7.5 WIDTH = 3.0 CONS = DOOR\_CON  
 \* 276 \*           MULTIPLIER = 2.0 ..  
 \* 277 \*  
 \* 278 \*           E-W HEIGHT = 8.0 WIDTH = 89.0 CONS = WALL\_CON  
 \* 279 \*           AZIMUTH = 45 TILT = 0 ..  
 \* 280 \*  
 \* 281 \*           DOOR HEIGHT = 7.5 WIDTH = 3.0 CONS = DOOR\_CON  
 \* 282 \*           MULTIPLIER = 3.0 ..  
 \* 283 \*  
 \* 284 \*           WINDOW HEIGHT = 4.0 WIDTH = 2.5 G-T = GTYPE1 ..  
 \* 285 \*  
 \* 286 \*           E-W HEIGHT = 8.0 WIDTH = 7.0 CONS = WALL\_CON  
 \* 287 \*           AZIMUTH = 45 TILT = 0 ..  
 \* 288 \*  
 \* 289 \*  
 \* 290 \* OFFICES =SPACE AREA = 5400.0 VOLUME = 43200.0  
 \* 291 \*           AZIMUTH = 315 ZONE-TYPE = CONDITIONED  
 \* 292 \*           PEOPLE-SCHEDULE = PEOPLE\_Y NUMBER-OF-PEOPLE = 100.0  
 \* 293 \*           PEOPLE-HEAT-GAIN = 450.0 PEOPLE-HG-SENS = 1.0  
 \* 294 \*           LIGHTING-TYPE = REC-FLUOR-RV LIGHTING-W/SQFT = 1.64  
 \* 295 \*           LIGHTING-SCHEDULE = LIGHT\_SCHD

\*296 \*           EQUIP-SCHEDULE = PEOPLE\_Y EQUIPMENT-KW = 5.0  
 \*297 \*           EQUIP-SENSIBLE = 0.0 INF-METHOD = AIR-CHANGE  
 \*298 \*           AIR-CHANGES/HR = 0.33 INF-SCHEDULE = FULL\_ON ..  
 \*299 \*  
 \*300 \*       U-W    HEIGHT = 90.0 WIDTH = 30.0 CONS = FLOORCON  
 \*301 \*           AZIMUTH = 315 ..  
 \*302 \*  
 \*303 \*       ROOF   HEIGHT = 90.0 WIDTH = 30.0 CONS = ROOF\_CON  
 \*304 \*           AZIMUTH = 315 TILT = 0 ..  
 \*305 \*  
 \*306 \*       E-W    HEIGHT = 16.0 WIDTH = 90.0 CONS = WALL\_CON  
 \*307 \*           AZIMUTH = 225 ..  
 \*308 \*  
 \*309 \*       WINDOW HEIGHT = 4.0 WIDTH = 2.5 G-T = GTYPE1  
 \*310 \*           MULTIPLIER = 15.0 ..  
 \*311 \*  
 \*312 \*       DOOR   HEIGHT = 7.5 WIDTH = 3.0 CONS = DOOR\_CON ..  
 \*313 \*  
 \*314 \*  
 \*315 \* STORAGE   =SPACE   AREA = 12920.0 VOLUME = 229330.0  
 \*316 \*           AZIMUTH = 315 TEMPERATURE = (65.)  
 \*317 \*           ZONE-TYPE = CONDITIONED PEOPLE-SCHEDULE = PEOPLE\_Y  
 \*318 \*           NUMBER-OF-PEOPLE = 20.0 PEOPLE-HEAT-GAIN = 450.0  
 \*319 \*           PEOPLE-HG-SENS = 1.0 LIGHTING-TYPE = REC-FLUOR-RV  
 \*320 \*           LIGHTING-W/SQFT = 1.64  
 \*321 \*           LIGHTING-SCHEDULE = LIGHT\_SCHD EQUIP-SENSIBLE = 0.3  
 \*322 \*           INF-METHOD = AIR-CHANGE AIR-CHANGES/HR = 0.33  
 \*323 \*           INF-SCHEDULE = FULL\_ON ..  
 \*324 \*  
 \*325 \*       U-W    HEIGHT = 148.0 WIDTH = 87.3 CONS = FLOORCON  
 \*326 \*           AZIMUTH = 315 ..  
 \*327 \*  
 \*328 \*       ROOF   HEIGHT = 148.0 WIDTH = 87.3 CONS = ROOF\_CON  
 \*329 \*           AZIMUTH = 315 TILT = 0 ..  
 \*330 \*  
 \*331 \*       E-W    HEIGHT = 17.8 WIDTH = 148.0 CONS = WALL\_CON  
 \*332 \*           AZIMUTH = 45 ..  
 \*333 \*  
 \*334 \*       DOOR   HEIGHT = 7.5 WIDTH = 3.0 CONS = DOOR\_CON  
 \*335 \*           MULTIPLIER = 10.0 ..  
 \*336 \*  
 \*337 \*       DOOR   HEIGHT = 10.0 WIDTH = 8.0 CONS = DOOR\_CON  
 \*338 \*           MULTIPLIER = 2.0 ..  
 \*339 \*  
 \*340 \*       WINDOW HEIGHT = 4.0 WIDTH = 2.5 G-T = GTYPE1 ..  
 \*341 \*  
 \*342 \*       E-W    HEIGHT = 17.8 WIDTH = 87.0 CONS = WALL\_CON  
 \*343 \*           AZIMUTH = 315 ..  
 \*344 \*  
 \*345 \*       DOOR   HEIGHT = 7.5 WIDTH = 3.0 CONS = DOOR\_CON ..

\* 346 \*  
 \* 347 \*       E-W   HEIGHT = 17.8 WIDTH = 36.0 CONS = WALL\_CON  
 \* 348 \*            AZIMUTH = 225 ..  
 \* 349 \*  
 \* 350 \*  
 \* 351 \* AMB\_GARAGE =SPACE   AREA = 1814.0 VOLUME = 29028.0  
 \* 352 \*            AZIMUTH = 315 ZONE-TYPE = CONDITIONED  
 \* 353 \*            PEOPLE-SCHEDULE = PEOPLE\_Y NUMBER-OF-PEOPLE = 10.0  
 \* 354 \*            PEOPLE-HEAT-GAIN = 500.0 PEOPLE-HG-SENS = 1.0  
 \* 355 \*            LIGHTING-TYPE = REC-FLUOR-RV  
 \* 356 \*            LIGHTING-SCHEDULE = LIGHT\_SCHD  
 \* 357 \*            EQUIP-SCHEDULE = FULL\_ON EQUIPMENT-KW = 5.6  
 \* 358 \*            EQUIP-SENSIBLE = 0.3 INF-METHOD = AIR-CHANGE  
 \* 359 \*            AIR-CHANGES/HR = 3.64 INF-SCHEDULE = FULL\_ON ..  
 \* 360 \*  
 \* 361 \*       ROOF   HEIGHT = 61.5 WIDTH = 29.5 CONS = ROOF\_CON  
 \* 362 \*            AZIMUTH = 315 TILT = 0 ..  
 \* 363 \*  
 \* 364 \*       U-W   HEIGHT = 61.5 WIDTH = 29.5 CONS = FLOORCON  
 \* 365 \*            AZIMUTH = 315 ..  
 \* 366 \*  
 \* 367 \*       E-W   HEIGHT = 16.0 WIDTH = 62.5 CONS = WALL\_CON  
 \* 368 \*            AZIMUTH = 45 ..  
 \* 369 \*  
 \* 370 \*       E-W   HEIGHT = 16.0 WIDTH = 29.5 CONS = WALL\_CON  
 \* 371 \*            AZIMUTH = 315 ..  
 \* 372 \*  
 \* 373 \*       DOOR   HEIGHT = 7.5 WIDTH = 3.0 CONS = DOOR\_CON..  
 \* 374 \*  
 \* 375 \*       E-W   HEIGHT = 16.0 WIDTH = 61.5 CONS = WALL\_CON  
 \* 376 \*            AZIMUTH = 225 ..  
 \* 377 \*  
 \* 378 \*       DOOR   HEIGHT = 7.5 WIDTH = 3.0 CONS = DOOR\_CON..  
 \* 379 \*  
 \* 380 \*       DOOR   HEIGHT = 9.5 WIDTH = 11.0 CONS = DOOR\_CON  
 \* 381 \*            MULTIPLIER = 5.0 ..  
 \* 382 \*  
 \* 383 \*  
 \* 384 \* ADDITION =SPACE   AREA = 2080.0 VOLUME = 23920.0  
 \* 385 \*            AZIMUTH = 315 ZONE-TYPE = CONDITIONED  
 \* 386 \*            PEOPLE-SCHEDULE = PEOPLE\_Y NUMBER-OF-PEOPLE = 40.0  
 \* 387 \*            PEOPLE-HEAT-GAIN = 450.0 PEOPLE-HG-LAT = 0.2  
 \* 388 \*            PEOPLE-HG-SENS = 0.8 LIGHTING-TYPE = REC-FLUOR-RV  
 \* 389 \*            LIGHTING-W/SQFT = 1.0 LIGHTING-SCHEDULE = LIGHT\_SCHD  
 \* 390 \*            EQUIP-SCHEDULE = PEOPLE\_Y EQUIPMENT-KW = 15.0  
 \* 391 \*            EQUIP-SENSIBLE = 0.3 INF-METHOD = AIR-CHANGE  
 \* 392 \*            AIR-CHANGES/HR = 0.33 INF-SCHEDULE = FULL\_ON ..  
 \* 393 \*  
 \* 394 \*       U-W   HEIGHT = 65.0 WIDTH = 32.0 CONS = FLOORCON  
 \* 395 \*            AZIMUTH = 315 ..

```

*396 *
*397 *      ROOF  HEIGHT = 65.0 WIDTH = 32.0 CONS = ROOF_CON
*398 *          AZIMUTH = 315 TILT = 0  ..
*399 *
*400 *      WINDOW HEIGHT = 4.0 WIDTH = 4.0 G-T = GTYPE1
*401 *          MULTIPLIER = 6.0  ..
*402 *
*403 *      DOOR  HEIGHT = 7.5 WIDTH = 3.0 CONS = DOOR_CON ..
*404 *
*405 *      E-W   HEIGHT = 8.0 WIDTH = 32.0 CONS = WALL_CON
*406 *          AZIMUTH = 135  ..
*407 *
*408 *      WINDOW HEIGHT = 4.0 WIDTH = 4.0 G-T = GTYPE1 ..
*409 *
*410 *      E-W   HEIGHT = 8.0 WIDTH = 65.0 CONS = WALL_CON
*411 *          AZIMUTH = 225  ..
*412 *
*413 *      E-W   HEIGHT = 8.0 WIDTH = 11.0 CONS = WALL_CON
*414 *          AZIMUTH = 315  ..
*415 *
*416 *
*417 * END  ..
*418 * COMPUTE LOADS  ..
*419 *
*420 * INPUT SYSTEMS  ..

```

# SDL PROCESSOR INPUT DATA

3/19/1995 13:13:10 SDL RUN 1

```

*421 *
*422 *
*423 *      $-----$
*424 *      $EZ-DOE SYSTEMS INPUT$
*425 *      $-----$
*426 *
*427 *      $ GENERAL PROJECT DATA
*428 *
*429 * TITLE LINE-1 *  EMC  ENGINEERS  INC.  *
*430 *      LINE-2 *EZDOE - ELITE SOFTWARE DEVELOPMENT INC*
*431 *      LINE-3 *  DENVER,  CO  80227  *
*432 *
*433 *      LINE-4 *BUILDING 11050, AMBULATORY HEALTH CARE *
*434 *      LINE-5 *CLINIC & MED LOGISTICS/STOR - BASE MODEL* ..
*435 * ABORT      ERRORS  ..
*436 * DIAGNOSTIC  WARNINGS ..
*437 * SYSTEMS-REPORT  SUMMARY=(SS-A,SS-B,SS-C,SS-K) ..

```

```

* 438 *
* 439 *           $ SCHEDULES
* 440 *
* 441 * FULL_ON_D =DAY-SCHEDULE (1,24) (1.) ..
* 442 * FULL_OFF_D =DAY-SCHEDULE (1,24) (0.) ..
* 443 * COOL75_D =DAY-SCHEDULE (1,24) (75.) ..
* 444 * HEAT70_D =DAY-SCHEDULE (1,24) (73.) ..
* 445 * HEAT65_D =DAY-SCHEDULE (1,24) (65.) ..
* 446 *
* 447 * FULL_ON_W =WEEK-SCHEDULE (ALL) FULL_ON_D ..
* 448 *
* 449 * FULL_OFF_W =WEEK-SCHEDULE (ALL) FULL_OFF_D ..
* 450 *
* 451 * COOL75_W =WEEK-SCHEDULE (ALL) COOL75_D ..
* 452 *
* 453 * HEAT70_W =WEEK-SCHEDULE (ALL) HEAT70_D ..
* 454 *
* 455 * HEAT65_W =WEEK-SCHEDULE (ALL) HEAT65_D ..
* 456 *
* 457 *
* 458 * $ FULL ON SCHEDULE
* 459 * FULL_ON =SCHEDULE THRU DEC 31 FULL_ON_W ..
* 460 *
* 461 * $ FULL OFF SCHEDULE
* 462 * FULL_OFF =SCHEDULE THRU DEC 31 FULL_OFF_W ..
* 463 *
* 464 * $ HEATING SCHEDULE, 70F
* 465 * HEAT70_SCH =SCHEDULE THRU DEC 31 HEAT70_W ..
* 466 *
* 467 * $ COOLING SCHEDULE, 75F
* 468 * COOL75_SCH =SCHEDULE THRU DEC 31 COOL75_W ..
* 469 *
* 470 * $ GARAGE HEATING SCHEDULE
* 471 * HEAT65 =SCHEDULE THRU DEC 31 HEAT65_W ..
* 472 *
* 473 * $ HEATING HOURS
* 474 * HEAT_HRS =SCHEDULE THRU MAY 15 FULL_ON_W
* 475 *           THRU OCT 1 FULL_OFF_W
* 476 *           THRU DEC 31 FULL_ON_W ..
* 477 *
* 478 * $ COOLING HOURS AVAIL.
* 479 * COOL_HRS =SCHEDULE THRU MAY 15 FULL_OFF_W
* 480 *           THRU OCT 1 FULL_ON_W
* 481 *           THRU DEC 31 FULL_OFF_W ..
* 482 *
* 483 *
* 484 *
* 485 *           $ ZONE DESCRIPTION
* 486 *
* 487 * CLINIC_SW =ZONE  DESIGN-HEAT-T = 70.0 DESIGN-COOL-T = 75.0

```

\* 488 \* HEAT-TEMP-SCH = HEAT70\_SCH COOL-TEMP-SCH = COOL75\_SCH  
 \* 489 \* ZONE-TYPE = CONDITIONED  
 \* 490 \* THERMOSTAT-TYPE = PROPORTIONAL THROTTLING-RANGE = 1.0  
 \* 491 \* BASEBOARD-CTRL = THERMOSTATIC  
 \* 492 \* BASEBOARD-RATING = -47170000. ASSIGNED-CFM = 10130.  
 \* 493 \* OUTSIDE-AIR-CFM = 4635. SIZING-OPTION = FROM-LOADS  
 \* 494 \* RATED-CFM = 10130.0 MIN-CFM-RATIO = 0.75  
 \* 495 \* HEATING-CAPACITY = -487800.0  
 \* 496 \* COOLING-CAPACITY = 306220.0 ..  
 \* 497 \*  
 \* 498 \* CLINIC\_NW =ZONE DESIGN-HEAT-T = 70.0 DESIGN-COOL-T = 75.0  
 \* 499 \* HEAT-TEMP-SCH = HEAT70\_SCH COOL-TEMP-SCH = COOL75\_SCH  
 \* 500 \* ZONE-TYPE = CONDITIONED  
 \* 501 \* THERMOSTAT-TYPE = PROPORTIONAL THROTTLING-RANGE = 1.0.  
 \* 502 \* BASEBOARD-CTRL = THERMOSTATIC  
 \* 503 \* BASEBOARD-RATING = -21716000. ASSIGNED-CFM = 3190.  
 \* 504 \* OUTSIDE-AIR-CFM = 800. SIZING-OPTION = FROM-LOADS  
 \* 505 \* RATED-CFM = 3190.0 MIN-CFM-RATIO = 0.77  
 \* 506 \* HEATING-CAPACITY = -120000.0  
 \* 507 \* COOLING-CAPACITY = 96494.0 ..  
 \* 508 \*  
 \* 509 \* OPER\_ROOMS =ZONE DESIGN-HEAT-T = 70.0 DESIGN-COOL-T = 75.0  
 \* 510 \* HEAT-TEMP-SCH = HEAT70\_SCH COOL-TEMP-SCH = COOL75\_SCH  
 \* 511 \* ZONE-TYPE = CONDITIONED  
 \* 512 \* THERMOSTAT-TYPE = PROPORTIONAL THROTTLING-RANGE = 1.0  
 \* 513 \* BASEBOARD-CTRL = THERMOSTATIC ASSIGNED-CFM = 2100.  
 \* 514 \* SIZING-OPTION = FROM-LOADS RATED-CFM = 2100.0  
 \* 515 \* MIN-CFM-RATIO = 1.0 HEATING-CAPACITY = -176600.0  
 \* 516 \* COOLING-CAPACITY = 83927.0 ..  
 \* 517 \*  
 \* 518 \* CLINIC\_N =ZONE DESIGN-HEAT-T = 70.0 DESIGN-COOL-T = 75.0  
 \* 519 \* HEAT-TEMP-SCH = HEAT70\_SCH COOL-TEMP-SCH = COOL75\_SCH  
 \* 520 \* ZONE-TYPE = CONDITIONED  
 \* 521 \* THERMOSTAT-TYPE = PROPORTIONAL THROTTLING-RANGE = 1.0  
 \* 522 \* BASEBOARD-CTRL = THERMOSTATIC ASSIGNED-CFM = 4005.  
 \* 523 \* OUTSIDE-AIR-CFM = 1390. SIZING-OPTION = FROM-LOADS  
 \* 524 \* RATED-CFM = 4005.0 MIN-CFM-RATIO = 0.87  
 \* 525 \* HEATING-CAPACITY = -165300.0  
 \* 526 \* COOLING-CAPACITY = 121147.0 ..  
 \* 527 \*  
 \* 528 \* CLINIC\_NE =ZONE DESIGN-HEAT-T = 70.0 DESIGN-COOL-T = 75.0  
 \* 529 \* HEAT-TEMP-SCH = HEAT70\_SCH COOL-TEMP-SCH = COOL75\_SCH  
 \* 530 \* ZONE-TYPE = CONDITIONED  
 \* 531 \* THERMOSTAT-TYPE = PROPORTIONAL THROTTLING-RANGE = 1.0  
 \* 532 \* BASEBOARD-CTRL = THERMOSTATIC  
 \* 533 \* BASEBOARD-RATING = -15469200. ASSIGNED-CFM = 9915.  
 \* 534 \* OUTSIDE-AIR-CFM = 3720. SIZING-OPTION = FROM-LOADS  
 \* 535 \* RATED-CFM = 9915.0 MIN-CFM-RATIO = 0.38  
 \* 536 \* HEATING-CAPACITY = -383300.0  
 \* 537 \* COOLING-CAPACITY = 299920.0 ..

\* 538 \*  
 \* 539 \* CLINIC\_S =ZONE DESIGN-HEAT-T = 70.0 DESIGN-COOL-T = 75.0  
 \* 540 \* HEAT-TEMP-SCH = HEAT70\_SCH COOL-TEMP-SCH = COOL75\_SCH  
 \* 541 \* ZONE-TYPE = CONDITIONED  
 \* 542 \* THERMOSTAT-TYPE = PROPORTIONAL THROTTLING-RANGE = 1.0  
 \* 543 \* BASEBOARD-CTRL = THERMOSTATIC  
 \* 544 \* BASEBOARD-RATING = -66175000. ASSIGNED-CFM = 13685.  
 \* 545 \* OUTSIDE-AIR-CFM = 3420. SIZING-OPTION = FROM-LOADS  
 \* 546 \* RATED-CFM = 13685.0 MIN-CFM-RATIO = 0.81  
 \* 547 \* EXHAUST-CFM = 3420.0 HEATING-CAPACITY = -586000.0  
 \* 548 \* COOLING-CAPACITY = 413960.0 ..  
 \* 549 \*  
 \* 550 \* OFFICES =ZONE DESIGN-HEAT-T = 70.0 DESIGN-COOL-T = 80.0  
 \* 551 \* HEAT-TEMP-SCH = HEAT70\_SCH ZONE-TYPE = CONDITIONED  
 \* 552 \* THERMOSTAT-TYPE = PROPORTIONAL THROTTLING-RANGE = 1.0  
 \* 553 \* BASEBOARD-CTRL = THERMOSTATIC ASSIGNED-CFM = 5000.  
 \* 554 \* OUTSIDE-AIR-CFM = 450. SIZING-OPTION = FROM-LOADS  
 \* 555 \* RATED-CFM = 5000.0 MIN-CFM-RATIO = 1.0  
 \* 556 \* HEATING-CAPACITY = -185000.0 ..  
 \* 557 \*  
 \* 558 \* STORAGE =ZONE DESIGN-HEAT-T = 65.0 DESIGN-COOL-T = 80.0  
 \* 559 \* HEAT-TEMP-SCH = HEAT65 ZONE-TYPE = CONDITIONED  
 \* 560 \* THERMOSTAT-TYPE = PROPORTIONAL THROTTLING-RANGE = 1.0  
 \* 561 \* BASEBOARD-CTRL = THERMOSTATIC  
 \* 562 \* BASEBOARD-RATING = -62800. ASSIGNED-CFM = 9000.  
 \* 563 \* OUTSIDE-AIR-CFM = 810. SIZING-OPTION = FROM-LOADS  
 \* 564 \* RATED-CFM = 9000.0 MIN-CFM-RATIO = 1.0  
 \* 565 \* HEATING-CAPACITY = -11700.0 ..  
 \* 566 \*  
 \* 567 \* AMB\_GARAGE =ZONE DESIGN-HEAT-T = 65.0 DESIGN-COOL-T = 90.0  
 \* 568 \* HEAT-TEMP-SCH = HEAT65 ZONE-TYPE = CONDITIONED  
 \* 569 \* THERMOSTAT-TYPE = PROPORTIONAL THROTTLING-RANGE = 1.0  
 \* 570 \* BASEBOARD-CTRL = THERMOSTATIC ASSIGNED-CFM = 1746.  
 \* 571 \* SIZING-OPTION = FROM-LOADS RATED-CFM = 1746.0  
 \* 572 \* MIN-CFM-RATIO = 1.0 ..  
 \* 573 \*  
 \* 574 \* ADDITION =ZONE DESIGN-HEAT-T = 70.0 DESIGN-COOL-T = 75.0  
 \* 575 \* HEAT-TEMP-SCH = HEAT70\_SCH COOL-TEMP-SCH = COOL75\_SCH  
 \* 576 \* ZONE-TYPE = CONDITIONED  
 \* 577 \* THERMOSTAT-TYPE = PROPORTIONAL THROTTLING-RANGE = 1.0  
 \* 578 \* BASEBOARD-CTRL = THERMOSTATIC ASSIGNED-CFM = 3400.  
 \* 579 \* OUTSIDE-AIR-CFM = 510. SIZING-OPTION = FROM-LOADS  
 \* 580 \* RATED-CFM = 3400.0 MIN-CFM-RATIO = 1.0  
 \* 581 \* EXHAUST-CFM = 510.0 HEATING-CAPACITY = -142200.0  
 \* 582 \* COOLING-CAPACITY = 102000.0 ..  
 \* 583 \*  
 \* 584 \*  
 \* 585 \* \$ SYSTEM DESCRIPTION  
 \* 586 \*  
 \* 587 \* AHU\_1 =SYSTEM SYSTEM-TYPE = VAVS

\* 588 \* MAX-SUPPLY-T = 135.0 MIN-SUPPLY-T = 65.0  
 \* 589 \* HEATING-SCHEDULE = FULL\_ON  
 \* 590 \* COOLING-SCHEDULE = FULL\_ON PREHEAT-T = 54.5  
 \* 591 \* MIN-HUMIDITY = 30.0 ECONO-LIMIT-T = 65.0  
 \* 592 \* ECONO-LOW-LIMIT = 55.0 SUPPLY-CFM = 10130.  
 \* 593 \* RETURN-CFM = 6483. RATED-CFM = 10130.  
 \* 594 \* MIN-OUTSIDE-AIR = 0.46 SUPPLY-STATIC = 5.0  
 \* 595 \* SUPPLY-EFF = 0.97 SUPPLY-MECH-EFF = 0.97  
 \* 596 \* NIGHT-CYCLE-CTRL = STAY-OFF RETURN-STATIC = 1.0  
 \* 597 \* RETURN-EFF = 0.97 NIGHT-VENT-DT = 0.0  
 \* 598 \* MIN-CFM-RATIO = 0.75 REHEAT-DELTA-T = 20.5  
 \* 599 \* COOLING-CAPACITY = 306422.  
 \* 600 \* HEATING-CAPACITY = -487800. FURNACE-AUX = 0.  
 \* 601 \* PREHEAT-SOURCE = HOT-WATER  
 \* 602 \* SIZING-OPTION = COINCIDENT RETURN-AIR-PATH = DIRECT  
 \* 603 \* ZONE-NAMES = (CLINIC\_SW) ..

\* 604 \*  
 \* 605 \* AHU\_2 =SYSTEM SYSTEM-TYPE = VAVS  
 \* 606 \* MAX-SUPPLY-T = 135.0 MIN-SUPPLY-T = 65.0  
 \* 607 \* HEATING-SCHEDULE = FULL\_ON  
 \* 608 \* COOLING-SCHEDULE = FULL\_ON PREHEAT-T = 63.3  
 \* 609 \* MIN-HUMIDITY = 30.0 ECONO-LIMIT-T = 65.0  
 \* 610 \* ECONO-LOW-LIMIT = 55.0 SUPPLY-CFM = 3190.  
 \* 611 \* RETURN-CFM = 2329. RATED-CFM = 3190.  
 \* 612 \* MIN-OUTSIDE-AIR = 0.27 SUPPLY-DELTA-T = 3.4  
 \* 613 \* SUPPLY-KW = 0.00089  
 \* 614 \* MOTOR-PLACEMENT = OUTSIDE-AIRFLOW  
 \* 615 \* NIGHT-CYCLE-CTRL = STAY-OFF RETURN-STATIC = 0.9  
 \* 616 \* RETURN-EFF = 0.97 NIGHT-VENT-DT = 0.0  
 \* 617 \* MIN-CFM-RATIO = 0.77 REHEAT-DELTA-T = 6.7  
 \* 618 \* COOLING-CAPACITY = 96494.  
 \* 619 \* HEATING-CAPACITY = -120000. FURNACE-AUX = 0.  
 \* 620 \* PREHEAT-SOURCE = HOT-WATER  
 \* 621 \* SIZING-OPTION = COINCIDENT RETURN-AIR-PATH = DIRECT  
 \* 622 \* ZONE-NAMES = (CLINIC\_NW) ..

\* 623 \*  
 \* 624 \* AHU\_3 =SYSTEM SYSTEM-TYPE = VAVS  
 \* 625 \* MAX-SUPPLY-T = 135.0 MIN-SUPPLY-T = 65.0  
 \* 626 \* HEATING-SCHEDULE = FULL\_ON  
 \* 627 \* COOLING-SCHEDULE = FULL\_ON PREHEAT-T = 49.0  
 \* 628 \* MIN-HUMIDITY = 30.0 ECONO-LIMIT-T = 65.0  
 \* 629 \* ECONO-LOW-LIMIT = 55.0 SUPPLY-CFM = 2100.  
 \* 630 \* RATED-CFM = 2100. MIN-OUTSIDE-AIR = 1.0  
 \* 631 \* RECOVERY-EFF = 0.41 SUPPLY-DELTA-T = 3.4  
 \* 632 \* SUPPLY-KW = 0.00107  
 \* 633 \* MOTOR-PLACEMENT = OUTSIDE-AIRFLOW  
 \* 634 \* NIGHT-CYCLE-CTRL = STAY-OFF RETURN-STATIC = 2.0  
 \* 635 \* RETURN-EFF = 0.97 NIGHT-VENT-DT = 0.0  
 \* 636 \* MIN-CFM-RATIO = 0.76 REHEAT-DELTA-T = 26.  
 \* 637 \* COOLING-CAPACITY = 83927.



\* 638 \* HEATING-CAPACITY = -176600. FURNACE-AUX = 0.  
 \* 639 \* PREHEAT-SOURCE = HOT-WATER  
 \* 640 \* SIZING-OPTION = COINCIDENT RETURN-AIR-PATH = DIRECT  
 \* 641 \* ZONE-NAMES = (OPER\_ROOMS) ..  
 \* 642 \*  
 \* 643 \* AHU\_4 =SYSTEM SYSTEM-TYPE = VAVS  
 \* 644 \* MAX-SUPPLY-T = 135.0 MIN-SUPPLY-T = 65.0  
 \* 645 \* HEATING-SCHEDULE = FULL\_ON  
 \* 646 \* COOLING-SCHEDULE = FULL\_ON PREHEAT-T = 55.8  
 \* 647 \* MIN-HUMIDITY = 30.0 ECONO-LIMIT-T = 65.0  
 \* 648 \* ECONO-LOW-LIMIT = 55.0 SUPPLY-CFM = 4005.  
 \* 649 \* RETURN-CFM = 2523. RATED-CFM = 4005.  
 \* 650 \* MIN-OUTSIDE-AIR = 0.37 SUPPLY-DELTA-T = 3.4  
 \* 651 \* SUPPLY-KW = 0.00078 NIGHT-CYCLE-CTRL = STAY-OFF  
 \* 652 \* RETURN-STATIC = 0.7 RETURN-EFF = 0.97  
 \* 653 \* NIGHT-VENT-DT = 0.0 MIN-CFM-RATIO = 0.87  
 \* 654 \* REHEAT-DELTA-T = 14.2 COOLING-CAPACITY = 121147.  
 \* 655 \* HEATING-CAPACITY = -165300. FURNACE-AUX = 0.  
 \* 656 \* PREHEAT-SOURCE = HOT-WATER  
 \* 657 \* SIZING-OPTION = COINCIDENT RETURN-AIR-PATH = DIRECT  
 \* 658 \* ZONE-NAMES = (CLINIC\_N) ..  
 \* 659 \*  
 \* 660 \* AHU\_5 =SYSTEM SYSTEM-TYPE = VAVS  
 \* 661 \* MAX-SUPPLY-T = 135.0 MIN-SUPPLY-T = 65.0  
 \* 662 \* HEATING-SCHEDULE = FULL\_ON  
 \* 663 \* COOLING-SCHEDULE = FULL\_ON PREHEAT-T = 58.8  
 \* 664 \* MIN-HUMIDITY = 30.0 ECONO-LIMIT-T = 65.0  
 \* 665 \* ECONO-LOW-LIMIT = 55.0 SUPPLY-CFM = 9915.  
 \* 666 \* RETURN-CFM = 7436. RATED-CFM = 9915.  
 \* 667 \* MIN-OUTSIDE-AIR = 0.25 SUPPLY-DELTA-T = 3.4  
 \* 668 \* SUPPLY-KW = 0.00055  
 \* 669 \* MOTOR-PLACEMENT = OUTSIDE-AIRFLOW  
 \* 670 \* NIGHT-CYCLE-CTRL = STAY-OFF RETURN-STATIC = 1.0  
 \* 671 \* RETURN-EFF = 0.97 NIGHT-VENT-DT = 0.0  
 \* 672 \* MIN-CFM-RATIO = 0.76 REHEAT-DELTA-T = 11.2  
 \* 673 \* COOLING-CAPACITY = 299920.  
 \* 674 \* HEATING-CAPACITY = -383300. FURNACE-AUX = 0.  
 \* 675 \* PREHEAT-SOURCE = HOT-WATER  
 \* 676 \* SIZING-OPTION = COINCIDENT RETURN-AIR-PATH = DIRECT  
 \* 677 \* ZONE-NAMES = (CLINIC\_NE) ..  
 \* 678 \*  
 \* 679 \* AHU\_6 =SYSTEM SYSTEM-TYPE = VAVS  
 \* 680 \* MAX-SUPPLY-T = 135.0 MIN-SUPPLY-T = 65.0  
 \* 681 \* HEATING-SCHEDULE = FULL\_ON  
 \* 682 \* COOLING-SCHEDULE = FULL\_ON PREHEAT-T = 60.0  
 \* 683 \* MIN-HUMIDITY = 30.0 ECONO-LIMIT-T = 65.0  
 \* 684 \* ECONO-LOW-LIMIT = 55.0 SUPPLY-CFM = 13685.  
 \* 685 \* RETURN-CFM = 3421. RATED-CFM = 13685.  
 \* 686 \* MIN-OUTSIDE-AIR = 0.25 SUPPLY-DELTA-T = 3.4  
 \* 687 \* SUPPLY-KW = 0.00053

\* 688 \*           MOTOR-PLACEMENT = OUTSIDE-AIRFLOW  
 \* 689 \*           NIGHT-CYCLE-CTRL = STAY-OFF RETURN-STATIC = 1.1  
 \* 690 \*           RETURN-EFF = 0.97 NIGHT-VENT-DT = 0.0  
 \* 691 \*           MIN-CFM-RATIO = 0.81 REHEAT-DELTA-T = 15.  
 \* 692 \*           COOLING-CAPACITY = 413960.  
 \* 693 \*           HEATING-CAPACITY = -189941. FURNACE-AUX = 0.  
 \* 694 \*           PREHEAT-SOURCE = HOT-WATER  
 \* 695 \*           SIZING-OPTION = COINCIDENT RETURN-AIR-PATH = DIRECT  
 \* 696 \*           ZONE-NAMES = (CLINIC\_S) ..  
 \* 697 \*  
 \* 698 \* AHU\_1X   =SYSTEM   SYSTEM-TYPE = HVSYS  
 \* 699 \*           MAX-SUPPLY-T = 135.0 HEATING-SCHEDULE = FULL\_ON  
 \* 700 \*           MIN-HUMIDITY = 30.0 ECONO-LIMIT-T = 65.0  
 \* 701 \*           ECONO-LOW-LIMIT = 55.0 SUPPLY-CFM = 5000.  
 \* 702 \*           RETURN-CFM = 4573. RATED-CFM = 5000.  
 \* 703 \*           MIN-OUTSIDE-AIR = 0.09 SUPPLY-DELTA-T = 2.4  
 \* 704 \*           SUPPLY-KW = 0.0006  
 \* 705 \*           MOTOR-PLACEMENT = OUTSIDE-AIRFLOW  
 \* 706 \*           NIGHT-CYCLE-CTRL = STAY-OFF NIGHT-VENT-DT = 0.0  
 \* 707 \*           HEATING-CAPACITY = -185000. FURNACE-AUX = 0.  
 \* 708 \*           ZONE-NAMES = (OFFICES) ..  
 \* 709 \*  
 \* 710 \* AHU\_2X   =SYSTEM   SYSTEM-TYPE = HVSYS  
 \* 711 \*           MAX-SUPPLY-T = 135.0 HEATING-SCHEDULE = FULL\_ON  
 \* 712 \*           MIN-HUMIDITY = 30.0 ECONO-LIMIT-T = 65.0  
 \* 713 \*           ECONO-LOW-LIMIT = 55.0 SUPPLY-CFM = 9000.  
 \* 714 \*           RETURN-CFM = 8190. RATED-CFM = 9000.  
 \* 715 \*           MIN-OUTSIDE-AIR = 0.09 SUPPLY-DELTA-T = 2.4  
 \* 716 \*           SUPPLY-KW = 0.00059  
 \* 717 \*           MOTOR-PLACEMENT = OUTSIDE-AIRFLOW  
 \* 718 \*           NIGHT-CYCLE-CTRL = STAY-OFF NIGHT-VENT-DT = 0.0  
 \* 719 \*           HEATING-CAPACITY = -198800. FURNACE-AUX = 0.  
 \* 720 \*           ZONE-NAMES = (STORAGE) ..  
 \* 721 \*  
 \* 722 \* GARAGE\_UH =SYSTEM   SYSTEM-TYPE = UHT  
 \* 723 \*           MAX-SUPPLY-T = 135.0 HEATING-SCHEDULE = FULL\_ON  
 \* 724 \*           RATED-CFM = 1746. SUPPLY-DELTA-T = 0.2  
 \* 725 \*           SUPPLY-KW = 0.000059  
 \* 726 \*           NIGHT-CYCLE-CTRL = CYCLE-ON-ANY  
 \* 727 \*           HEATING-CAPACITY = -100000. FURNACE-AUX = 0.  
 \* 728 \*           ZONE-NAMES = (AMB\_GARAGE) ..  
 \* 729 \*  
 \* 730 \* ADDIT\_AHU =SYSTEM   SYSTEM-TYPE = PTAC  
 \* 731 \*           MAX-SUPPLY-T = 135.0 MIN-SUPPLY-T = 45.0  
 \* 732 \*           HEATING-SCHEDULE = FULL\_ON  
 \* 733 \*           COOLING-SCHEDULE = FULL\_ON SUPPLY-CFM = 3400.  
 \* 734 \*           RATED-CFM = 3400. MIN-OUTSIDE-AIR = 0.1  
 \* 735 \*           FAN-CONTROL = CONSTANT-VOLUME SUPPLY-DELTA-T = 0.2  
 \* 736 \*           SUPPLY-KW = 0.00007 NIGHT-CYCLE-CTRL = STAY-OFF  
 \* 737 \*           NIGHT-VENT-DT = 0.0 COOLING-CAPACITY = 102000.

\* 738 \* COOL-FT-MIN = 0. HEATING-CAPACITY = -142200.  
 \* 739 \* MIN-HP-T = 0. HP-SUPP-SOURCE = HOT-WATER  
 \* 740 \* FURNACE-AUX = 0. HEAT-SOURCE = GAS-FURNACE  
 \* 741 \* ZONE-NAMES = (ADDITION) ..  
 \* 742 \*  
 \* 743 \* END ..  
 \* 744 \* COMPUTE SYSTEMS ..  
 \* 745 \*  
 \* 746 \* INPUT PLANT ..

# PDL PROCESSOR INPUT DATA

3/19/1995 13:13:10 PDL RUN 1

\* 747 \*  
 \* 748 \*  
 \* 749 \* \$-----\$  
 \* 750 \* \$EZ-DOE PLANTS INPUT\$  
 \* 751 \* \$-----\$  
 \* 752 \*  
 \* 753 \* \$ GENERAL PROJECT DATA  
 \* 754 \*  
 \* 755 \* TITLE LINE-1 \* EMC ENGINEERS INC. \*  
 \* 756 \* LINE-2 \*EZDOE - ELITE SOFTWARE DEVELOPMENT INC\*  
 \* 757 \* LINE-3 \* DENVER, CO 80227 \*  
 \* 758 \*  
 \* 759 \* LINE-4 \*BUILDING 11050, AMBULATORY HEALTH CARE \*  
 \* 760 \* LINE-5 \*CLINIC & MED LOGISTICS/STOR - BASE MODEL\* ..  
 \* 761 \*  
 \* 762 \* ABORT ERRORS ..  
 \* 763 \* DIAGNOSTIC WARNINGS ..  
 \* 764 \* PLANT-REPORT SUMMARY=(PS-A,PS-B,BEPS)  
 \* 765 \* ..  
 \* 766 \*  
 \* 767 \* \$ SCHEDULES  
 \* 768 \*  
 \* 769 \* HX\_D =DAY-SCHEDULE (1,24) (1.) ..  
 \* 770 \*  
 \* 771 \*  
 \* 772 \* HX\_W =WEEK-SCHEDULE (ALL) HX\_D ..  
 \* 773 \*  
 \* 774 \*  
 \* 775 \* \$ HEAT EXCHGER SCHEDULE  
 \* 776 \* HX\_SCHED =SCHEDULE THRU DEC 31 HX\_W ..  
 \* 777 \*  
 \* 778 \*  
 \* 779 \*

\* 780 \*           \$ EQUIPMENT DESCRIPTION  
\* 781 \*  
\* 782 \* HX1A&B&X =PLANT-EQUIPMENT TYPE = HTANK-STORAGE  
\* 783 \*           SIZE = 2.6 ..  
\* 784 \*  
\* 785 \* ACCUS     =PLANT-EQUIPMENT TYPE = OPEN-REC-CHLR  
\* 786 \*           SIZE = 0.5 INSTALLED-NUMBER = 6  
\* 787 \*           MAX-NUMBER-AVAIL = 6 ..  
\* 788 \*  
\* 789 \* PLANT-PARAMETERS   MAKEUP-WTR-T = 160. OPEN-REC-COND-TYPE = AIR  
\* 790 \*           OPEN-CENT-COND-PWR = 0.15 OPEN-REC-COND-PWR = 0.15  
\* 791 \*           OPEN-REC-UNL-RAT = 0.1 ..  
\* 792 \*  
\* 793 \*  
\* 794 \* ENERGY-RESOURCE   RESOURCE = ELECTRICITY ..  
\* 795 \* ENERGY-RESOURCE   RESOURCE = STEAM SOURCE-SITE-EFF = 1.000 ..  
\* 796 \* ENERGY-RESOURCE   RESOURCE = FUEL-OIL ..  
\* 797 \* ENERGY-RESOURCE   RESOURCE = NATURAL-GAS ..  
\* 798 \*  
\* 799 \* ENERGY-STORAGE   HEAT-STORE-RATE = 10.0 HEAT-SUPPLY-RATE = 10.0  
\* 800 \*           HTANK-BASE-T = 195.0 HTANK-T-RANGE = 5.0  
\* 801 \*           HEAT-STORE-SCH = HX\_SCHED ..  
\* 802 \*  
\* 803 \*   HEAT-RECOVERY  
\* 804 \*       SUPPLY-1 = (HTANK-STORAGE)  
\* 805 \*       DEMAND-1 = (SPACE-HEAT) ..  
\* 806 \*  
\* 807 \*  
\* 808 \*  
\* 809 \* END ..  
\* 810 \* COMPUTE PLANT ..  
\* 811 \* STOP ..

ENERGY TYPE IN SITE MBTU-	STEAM	ELECTRICITY	NATURAL-GAS
CATEGORY OF USE			
SPACE HEAT	7063.96	0.00	259.50
SPACE COOL	0.00	761.87	0.00
HVAC AUX	0.00	1098.08	0.00
DOM HOT WTR	746.04	0.00	0.00
AUX SOLAR	0.00	0.00	0.00
LIGHTS	0.00	1546.75	0.00
VERT TRANS	0.00	0.00	0.00
MISC EQUIP	0.00	2491.87	0.00
	-----	-----	-----
TOTAL	7810.00	5898.57	259.50

TOTAL SITE ENERGY 13968.13 MBTU 181.8 KBTU/SQFT-YR GROSS-AREA 181.8 KBTU/SQFT-YR NET-AREA  
 TOTAL SOURCE ENERGY 25783.17 MBTU 335.5 KBTU/SQFT-YR GROSS-AREA 335.5 KBTU/SQFT-YR NET-AREA

PERCENT OF HOURS ANY SYSTEM ZONE OUTSIDE OF THROTTLING RANGE = 53.8

PERCENT OF HOURS ANY PLANT LOAD NOT SATISFIED = 0.0

NOTE ELECTRICITY AND/OR FUEL USED TO GENERATE ELECTRICITY IS APPORTIONED BASED  
 ON THE YEARLY DEMAND. ALL OTHER ENERGY TYPES ARE APPORTIONED HOURLY.

MO	UTILITY- STEAM	ELECTRICITY	NATURAL-GAS
JAN	TOTAL(MBTU)	1425.439	54.708
	PEAK(KBTU)	3054.711	133.15
	DY/HR	5/ 2	5/ 2
FEB	TOTAL(MBTU)	1095.643	40.679
	PEAK(KBTU)	2595.878	110.23
	DY/HR	5/ 5	5/ 5
MAR	TOTAL(MBTU)	1086.527	38.386
	PEAK(KBTU)	2611.662	109.032
	DY/HR	9/ 5	9/ 5
APR	TOTAL(MBTU)	648.259	19.203
	PEAK(KBTU)	1998.524	83.132
	DY/HR	1/ 4	1/ 5
MAY	TOTAL(MBTU)	433.62	10.714
	PEAK(KBTU)	1559.905	66.941
	DY/HR	3/ 2	3/ 5
JUN	TOTAL(MBTU)	222.31	3.505
	PEAK(KBTU)	912.523	42.284
	DY/HR	8/ 5	8/ 5
JUL	TOTAL(MBTU)	179.036	1.637
	PEAK(KBTU)	743.729	39.234
	DY/HR	25/ 5	25/ 5
AUG	TOTAL(MBTU)	192.13	2.734
	PEAK(KBTU)	1474.845	37.711
	DY/HR	6/24	22/ 5
SEP	TOTAL(MBTU)	253.458	6.19
	PEAK(KBTU)	1189.643	52.819
	DY/HR	24/ 4	24/ 4
OCT	TOTAL(MBTU)	446.622	13.622
	PEAK(KBTU)	1486.872	65.373
	DY/HR	25/ 5	25/ 5
NOV	TOTAL(MBTU)	708.99	26.162
	PEAK(KBTU)	2057.055	88.083
	DY/HR	27/ 5	27/ 5

DEC	TOTAL(MBTU)	1117.936	460.561	41.957
	PEAK(KBTU)	2509.74	1028.889	108.16
	DY/HR	3/ 4	9/20	3/ 4
	ONE YEAR	7809.97	5898.664	259.497
	USE/PEAK	3054.711	1488.089	133.15

**COMPUTER SIMULATIONS**  
BUILDING 11050

RUN 1 - SCHEDULE START/STOP AND NIGHT SETBACK



LDL PROCESSOR INPUT DATA

3/27/1995 14: 3:51 LDL RUN 1

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* 3 *
* 4 *
* 5 *
* 6 * $-----$
* 7 * $ E Z - D O E   L O A D S   I N P U T $
* 8 * $-----$
* 9 *
* 10 * $ GENERAL PROJECT DATA
* 11 * TITLE LINE-1 * EMC ENGINEERS INC. *
* 12 * LINE-2 *EZDOE - ELITE SOFTWARE DEVELOPMENT INC*
* 13 * LINE-3 * DENVER, CO 80227 *
* 14 *
* 15 * LINE-4 *BUILDING 11050, AMBULATORY HEALTH CARE *
* 16 * LINE-5 *CLINIC & MED LOGISTICS/STOR - MODEL W SB* ..
* 17 *
* 18 * ABORT ERRORS ..
* 19 * DIAGNOSTIC WARNINGS ..
* 20 * LOADS-REPORT SUMMARY=(LS-C,LS-D) ..
* 21 * BUILDING-LOCATION X-REF = 0.0
* 22 * Y-REF = 0.0 ..
* 23 * RUN-PERIOD JAN 1 1994 THRU DEC 31 1994 ..
* 24 *
* 25 *
* 26 * $ SCHEDULES
* 27 *
* 28 * FULL_ON_D =DAY-SCHEDULE (1,24) (1.) ..
* 29 *
* 30 * FULL_OFF_D =DAY-SCHEDULE (1,24) (0.) ..
* 31 *
* 32 * PEOPLE_D =DAY-SCHEDULE (1,5) (0.)
* 33 * (6,7) (0.5)
* 34 * (8,9) (0.6,0.9)
* 35 * (10,12) (1.)
* 36 * (13,18) (0.9)
* 37 * (19,20) (1.)
* 38 * (21) (0.3)
* 39 * (22,24) (0.) ..
* 40 *
* 41 * LIGHT_ON_D =DAY-SCHEDULE (1,5) (0.1)
* 42 * (6,10) (0.2,0.6,0.7,0.8,0.6)
* 43 * (11) (0.4)
* 44 * (12,13) (0.6)
* 45 * (14,17) (0.5)
* 46 * (18,19) (0.7)
* 47 * (20,22) (0.8,0.5,0.3)
* 48 * (23,24) (0.1) ..
* 49 *
* 50 * STRLZR_D =DAY-SCHEDULE (1,6) (0.)
* 51 * (7) (1.)
* 52 * (8,24) (0.) ..
* 53 *
* 54 *
* 55 * FULL_ON_W =WEEK-SCHEDULE (ALL) FULL_ON_D ..
* 56 *
* 57 * FULL_OFF_W =WEEK-SCHEDULE (ALL) FULL_OFF_D ..
* 58 *
* 59 * PEOPLE_W =WEEK-SCHEDULE (ALL) PEOPLE_D ..
* 60 *
* 61 * LIGHT_ON_W =WEEK-SCHEDULE (ALL) LIGHT_ON_D ..
* 62 *
* 63 * STRLZER_W =WEEK-SCHEDULE (ALL) STRLZR_D ..
* 64 *
* 65 *
* 66 * $ FULL ON SCHEDULE
* 67 * FULL_ON =SCHEDULE THRU DEC 31 FULL_ON_W ..
* 68 *
* 69 * $ FULL OFF SCHEDULE
* 70 * FULL_OFF =SCHEDULE THRU DEC 31 FULL_OFF_W ..
* 71 *
* 72 * $ OCCUPANCY SCHEDULE
* 73 * PEOPLE_Y =SCHEDULE THRU DEC 31 PEOPLE_W ..
* 74 *
* 75 * $ LIGHTING SCHEDULE
* 76 * LIGHT_SCHD =SCHEDULE THRU DEC 31 LIGHT_ON_W ..
* 77 *
* 78 * $ STERILIZER SCHEDULE
* 79 * STRLZR_Y =SCHEDULE THRU DEC 31 STRLZER_W ..
* 80 *
* 81 *
* 82 *
* 83 * $ CONSTRUCTION TYPES
* 84 *
* 85 *
* 86 *
* 87 * FLOORCON =CONSTRUCTION U-VALUE = 0.100 ..
* 88 * ROOF_CON =CONSTRUCTION U-VALUE = 0.030 ..
* 89 * WALL_CON =CONSTRUCTION U-VALUE = 0.140 ..
* 90 * DOOR_CON =CONSTRUCTION U-VALUE = 1.000 ..
* 91 *
* 92 * GTYPE1 =GLASS-TYPE GLASS-TYPE-CODE = 1
* 93 * PANES = 1
* 94 * GLASS-CONDUCTANCE = 1.130 ..
* 95 *
* 96 *
* 97 *
* 98 *
* 99 * $ SPACE DESCRIPTION
* 100 *
* 101 * CLINIC_SW =SPACE AREA = 8284.0 VOLUME = 66272.0
* 102 * AZIMUTH = 315 TEMPERATURE = (72.5)

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* 103 *      ZONE-TYPE = CONDITIONED  PEOPLE-SCHEDULE = PEOPLE_Y
* 104 *      NUMBER-OF-PEOPLE = 100.0  PEOPLE-HEAT-GAIN = 450.0
* 105 *      PEOPLE-HG-SENS = 1.0  LIGHTING-TYPE = REC-FLUOR-RV
* 106 *      LIGHTING-W/SQFT = 1.64
* 107 *      LIGHTING-SCHEDULE = LIGHT_SCHD
* 108 *      EQUIP-SCHEDULE = PEOPLE_Y  EQUIPMENT-KW = 20.0
* 109 *      EQUIP-SENSIBLE = 0.3  SOURCE-SCHEDULE = FULL_ON
* 110 *      SOURCE-TYPE = HOT-WATER  SOURCE-BTU/HR = 85160.0
* 111 *      SOURCE-SENSIBLE = 0.1  SOURCE-LATENT = 0.05
* 112 *      INF-METHOD = AIR-CHANGE  AIR-CHANGES/HR = 0.33
* 113 *      INF-SCHEDULE = FULL_ON  ..
* 114 *
* 115 *      U-W      HEIGHT = 148.5  WIDTH = 55.8  CONS = FLOORCON
* 116 *      AZIMUTH = 315  ..
* 117 *
* 118 *      ROOF     HEIGHT = 148.5  WIDTH = 55.8  CONS = ROOF_CON
* 119 *      AZIMUTH = 315  TILT = 0  ..
* 120 *
* 121 *      E-W      HEIGHT = 8.0  WIDTH = 11.0  CONS = WALL_CON
* 122 *      AZIMUTH = 135  ..
* 123 *
* 124 *      E-W      HEIGHT = 8.0  WIDTH = 148.5  CONS = WALL_CON
* 125 *      AZIMUTH = 225  ..
* 126 *
* 127 *      DOOR     HEIGHT = 7.5  WIDTH = 3.0  CONS = DOOR_CON
* 128 *      MULTIPLIER = 3.0  ..
* 129 *
* 130 *      WINDOW   HEIGHT = 4.0  WIDTH = 2.5  G-T = GTYPE1
* 131 *      MULTIPLIER = 3.0  ..
* 132 *
* 133 *      WINDOW   HEIGHT = 4.0  WIDTH = 2.5  G-T = GTYPE1
* 134 *      MULTIPLIER = 23.0  ..
* 135 *
* 136 *      E-W      HEIGHT = 8.0  WIDTH = 3.0  CONS = WALL_CON
* 137 *      AZIMUTH = 315  ..
* 138 *
* 139 *
* 140 *      CLINIC_NW =SPACE  AREA = 3048.0  VOLUME = 24384.0
* 141 *      AZIMUTH = 315  TEMPERATURE = (72.5)
* 142 *      ZONE-TYPE = CONDITIONED  PEOPLE-SCHEDULE = PEOPLE_Y
* 143 *      NUMBER-OF-PEOPLE = 100.0  PEOPLE-HEAT-GAIN = 450.0
* 144 *      PEOPLE-HG-SENS = 1.0  LIGHTING-TYPE = REC-FLUOR-RV
* 145 *      LIGHTING-W/SQFT = 1.64
* 146 *      LIGHTING-SCHEDULE = LIGHT_SCHD
* 147 *      EQUIP-SCHEDULE = FULL_ON  EQUIPMENT-KW = 20.0
* 148 *      EQUIP-SENSIBLE = 0.3  INF-METHOD = AIR-CHANGE
* 149 *      AIR-CHANGES/HR = 0.33  INF-SCHEDULE = FULL_ON  ..
* 150 *
* 151 *      U-W      HEIGHT = 84.0  WIDTH = 36.3  CONS = FLOORCON
* 152 *      AZIMUTH = 315  ..
* 153 *
* 154 *      ROOF     HEIGHT = 84.0  WIDTH = 36.3  CONS = ROOF_CON
* 155 *      AZIMUTH = 315  TILT = 0  ..
* 156 *
* 157 *      E-W      HEIGHT = 8.0  WIDTH = 104.0  CONS = WALL_CON
* 158 *      AZIMUTH = 225  ..
* 159 *
* 160 *      DOOR     HEIGHT = 7.5  WIDTH = 3.0  CONS = DOOR_CON
* 161 *      MULTIPLIER = 2.0  ..
* 162 *
* 163 *      WINDOW   HEIGHT = 4.0  WIDTH = 2.5  G-T = GTYPE1
* 164 *      MULTIPLIER = 12.0  ..
* 165 *
* 166 *      E-W      HEIGHT = 8.0  WIDTH = 5.0  CONS = WALL_CON
* 167 *      AZIMUTH = 135  ..
* 168 *
* 169 *      E-W      HEIGHT = 8.0  WIDTH = 55.5  CONS = WALL_CON
* 170 *      AZIMUTH = 315  ..
* 171 *
* 172 *      DOOR     HEIGHT = 7.5  WIDTH = 3.0  CONS = DOOR_CON
* 173 *      MULTIPLIER = 2.0  ..
* 174 *
* 175 *
* 176 *      OPER_ROOMS =SPACE  AREA = 880.0  VOLUME = 7040.0
* 177 *      AZIMUTH = 315  TEMPERATURE = (72.5)
* 178 *      ZONE-TYPE = CONDITIONED  PEOPLE-SCHEDULE = PEOPLE_Y
* 179 *      NUMBER-OF-PEOPLE = 20.0  PEOPLE-HEAT-GAIN = 450.0
* 180 *      PEOPLE-HG-SENS = 1.0  LIGHTING-TYPE = REC-FLUOR-RV
* 181 *      LIGHTING-W/SQFT = 1.64
* 182 *      LIGHTING-SCHEDULE = LIGHT_SCHD
* 183 *      EQUIP-SCHEDULE = PEOPLE_Y  EQUIPMENT-KW = 5.0
* 184 *      EQUIP-SENSIBLE = 0.3  INF-METHOD = NONE  ..
* 185 *
* 186 *      U-W      HEIGHT = 29.7  WIDTH = 29.7  CONS = FLOORCON
* 187 *      AZIMUTH = 315  ..
* 188 *
* 189 *      ROOF     HEIGHT = 29.7  WIDTH = 29.7  CONS = ROOF_CON
* 190 *      AZIMUTH = 315  TILT = 0  ..
* 191 *
* 192 *
* 193 *      CLINIC_N  =SPACE  AREA = 5350.0  VOLUME = 42800.0
* 194 *      AZIMUTH = 315  TEMPERATURE = (72.5)
* 195 *      ZONE-TYPE = CONDITIONED  PEOPLE-SCHEDULE = PEOPLE_Y
* 196 *      NUMBER-OF-PEOPLE = 100.0  PEOPLE-HEAT-GAIN = 450.0
* 197 *      PEOPLE-HG-SENS = 1.0  LIGHTING-TYPE = REC-FLUOR-RV
* 198 *      LIGHTING-W/SQFT = 1.64
* 199 *      LIGHTING-SCHEDULE = LIGHT_SCHD
* 200 *      EQUIP-SCHEDULE = PEOPLE_Y  EQUIPMENT-KW = 20.0
* 201 *      EQUIP-SENSIBLE = 0.3  SOURCE-SENSIBLE = 0.0
* 202 *      INF-METHOD = AIR-CHANGE  AIR-CHANGES/HR = 0.33
* 203 *      INF-SCHEDULE = FULL_ON  ..
* 204 *
* 205 *      U-W      HEIGHT = 73.1  WIDTH = 73.1  CONS = FLOORCON
* 206 *      AZIMUTH = 315  ..
* 207 *
* 208 *      ROOF     HEIGHT = 73.1  WIDTH = 73.1  CONS = ROOF_CON
* 209 *      AZIMUTH = 315  TILT = 0  ..
* 210 *

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* 211 *
* 212 * CLINIC_NE =SPACE AREA = 17116.0 VOLUME = 136924.0
* 213 * AZIMUTH = 315 TEMPERATURE = (72.5)
* 214 * ZONE-TYPE = CONDITIONED PEOPLE-SCHEDULE = PEOPLE_Y
* 215 * NUMBER-OF-PEOPLE = 100.0 PEOPLE-HEAT-GAIN = 450.0
* 216 * PEOPLE-HG-SENS = 1.0 LIGHTING-TYPE = REC-FLUOR-RV
* 217 * LIGHTING-W/SQFT = 1.64
* 218 * LIGHTING-SCHEDULE = LIGHT_SCHD
* 219 * EQUIP-SCHEDULE = PEOPLE_Y EQUIPMENT-KW = 20.0
* 220 * EQUIP-SENSIBLE = 0.3 INF-METHOD = AIR-CHANGE
* 221 * AIR-CHANGES/HR = 0.33 INF-SCHEDULE = FULL_ON ..
* 222 *
* 223 * U-W HEIGHT = 157.0 WIDTH = 109.0 CONS = FLOORCON
* 224 * AZIMUTH = 315 ..
* 225 *
* 226 * ROOF HEIGHT = 157.0 WIDTH = 109.0 CONS = ROOF_CON
* 227 * AZIMUTH = 315 TILT = 0 ..
* 228 *
* 229 * E-W HEIGHT = 8.0 WIDTH = 157.0 CONS = WALL_CON
* 230 * AZIMUTH = 45 ..
* 231 *
* 232 * DOOR HEIGHT = 7.5 WIDTH = 3.0 CONS = DOOR_CON
* 233 * MULTIPLIER = 2.0 ..
* 234 *
* 235 * DOOR HEIGHT = 11.0 WIDTH = 12.0 CONS = DOOR_CON ..
* 236 *
* 237 * E-W HEIGHT = 8.0 WIDTH = 109.0 CONS = WALL_CON
* 238 * AZIMUTH = 315 ..
* 239 *
* 240 * DOOR HEIGHT = 11.0 WIDTH = 12.0 CONS = DOOR_CON ..
* 241 *
* 242 * DOOR HEIGHT = 7.5 WIDTH = 3.0 CONS = DOOR_CON
* 243 * MULTIPLIER = 6.0 ..
* 244 *
* 245 * E-W HEIGHT = 8.0 WIDTH = 19.0 CONS = WALL_CON
* 246 * AZIMUTH = 225 ..
* 247 *
* 248 * DOOR HEIGHT = 7.5 WIDTH = 3.0 CONS = DOOR_CON
* 249 * MULTIPLIER = 2.0 ..
* 250 *
* 251 *
* 252 * CLINIC_S =SPACE AREA = 19956.0 VOLUME = 159648.0
* 253 * AZIMUTH = 315 TEMPERATURE = (72.5)
* 254 * ZONE-TYPE = CONDITIONED PEOPLE-SCHEDULE = PEOPLE_Y
* 255 * NUMBER-OF-PEOPLE = 100.0 PEOPLE-HEAT-GAIN = 450.0
* 256 * PEOPLE-HG-SENS = 1.0 LIGHTING-TYPE = REC-FLUOR-RV
* 257 * LIGHTING-W/SQFT = 1.64
* 258 * LIGHTING-SCHEDULE = LIGHT_SCHD
* 259 * EQUIP-SCHEDULE = PEOPLE_Y EQUIPMENT-KW = 20.0
* 260 * EQUIP-SENSIBLE = 0.3 INF-METHOD = AIR-CHANGE
* 261 * AIR-CHANGES/HR = 0.33 INF-SCHEDULE = FULL_ON ..
* 262 *
* 263 * U-W HEIGHT = 89.9 WIDTH = 222.0 CONS = FLOORCON
* 264 * AZIMUTH = 315 ..
* 265 *
* 266 * ROOF HEIGHT = 89.9 WIDTH = 222.0 CONS = ROOF_CON
* 267 * AZIMUTH = 315 TILT = 0 ..
* 268 *
* 269 * E-W HEIGHT = 8.0 WIDTH = 222.0 CONS = WALL_CON
* 270 * AZIMUTH = 135 TILT = 0 ..
* 271 *
* 272 * WINDOW HEIGHT = 4.0 WIDTH = 2.5 G-T = GTYPE1
* 273 * MULTIPLIER = 30.0 ..
* 274 *
* 275 * DOOR HEIGHT = 7.5 WIDTH = 3.0 CONS = DOOR_CON
* 276 * MULTIPLIER = 2.0 ..
* 277 *
* 278 * E-W HEIGHT = 8.0 WIDTH = 89.0 CONS = WALL_CON
* 279 * AZIMUTH = 45 TILT = 0 ..
* 280 *
* 281 * DOOR HEIGHT = 7.5 WIDTH = 3.0 CONS = DOOR_CON
* 282 * MULTIPLIER = 3.0 ..
* 283 *
* 284 * WINDOW HEIGHT = 4.0 WIDTH = 2.5 G-T = GTYPE1 ..
* 285 *
* 286 * E-W HEIGHT = 8.0 WIDTH = 7.0 CONS = WALL_CON
* 287 * AZIMUTH = 45 TILT = 0 ..
* 288 *
* 289 *
* 290 * OFFICES =SPACE AREA = 5400.0 VOLUME = 43200.0
* 291 * AZIMUTH = 315 ZONE-TYPE = CONDITIONED
* 292 * PEOPLE-SCHEDULE = PEOPLE_Y NUMBER-OF-PEOPLE = 100.0
* 293 * PEOPLE-HEAT-GAIN = 450.0 PEOPLE-HG-SENS = 1.0
* 294 * LIGHTING-TYPE = REC-FLUOR-RV LIGHTING-W/SQFT = 1.64
* 295 * LIGHTING-SCHEDULE = LIGHT_SCHD
* 296 * EQUIP-SCHEDULE = PEOPLE_Y EQUIPMENT-KW = 5.0
* 297 * EQUIP-SENSIBLE = 0.0 INF-METHOD = AIR-CHANGE
* 298 * AIR-CHANGES/HR = 0.33 INF-SCHEDULE = FULL_ON ..
* 299 *
* 300 * U-W HEIGHT = 90.0 WIDTH = 30.0 CONS = FLOORCON
* 301 * AZIMUTH = 315 ..
* 302 *
* 303 * ROOF HEIGHT = 90.0 WIDTH = 30.0 CONS = ROOF_CON
* 304 * AZIMUTH = 315 TILT = 0 ..
* 305 *
* 306 * E-W HEIGHT = 16.0 WIDTH = 90.0 CONS = WALL_CON
* 307 * AZIMUTH = 225 ..
* 308 *
* 309 * WINDOW HEIGHT = 4.0 WIDTH = 2.5 G-T = GTYPE1
* 310 * MULTIPLIER = 15.0 ..
* 311 *
* 312 * DOOR HEIGHT = 7.5 WIDTH = 3.0 CONS = DOOR_CON ..
* 313 *
* 314 *
* 315 * STORAGE =SPACE AREA = 12920.0 VOLUME = 229330.0
* 316 * AZIMUTH = 315 TEMPERATURE = (65.)
* 317 * ZONE-TYPE = CONDITIONED PEOPLE-SCHEDULE = PEOPLE_Y
* 318 * NUMBER-OF-PEOPLE = 20.0 PEOPLE-HEAT-GAIN = 450.0

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* 319 *      PEOPLE-HG-SENS = 1.0 LIGHTING-TYPE = REC-FLUOR-RV
* 320 *      LIGHTING-W/SOFT = 1.64
* 321 *      LIGHTING-SCHEDULE = LIGHT_SCHD EQUIP-SENSIBLE = 0.0
* 322 *      INF-METHOD = AIR-CHANGE AIR-CHANGES/HR = 0.33
* 323 *      INF-SCHEDULE = FULL_ON ..
* 324 *
* 325 *      U-W      HEIGHT = 148.0 WIDTH = 87.3 CONS = FLOORCON
* 326 *              AZIMUTH = 315 ..
* 327 *
* 328 *      ROOF     HEIGHT = 148.0 WIDTH = 87.3 CONS = ROOF_CON
* 329 *              AZIMUTH = 315 TILT = 0 ..
* 330 *
* 331 *      E-W      HEIGHT = 17.8 WIDTH = 148.0 CONS = WALL_CON
* 332 *              AZIMUTH = 45 ..
* 333 *
* 334 *      DOOR     HEIGHT = 7.5 WIDTH = 3.0 CONS = DOOR_CON
* 335 *              MULTIPLIER = 10.0 ..
* 336 *
* 337 *      DOOR     HEIGHT = 10.0 WIDTH = 8.0 CONS = DOOR_CON
* 338 *              MULTIPLIER = 2.0 ..
* 339 *
* 340 *      WINDOW   HEIGHT = 4.0 WIDTH = 2.5 G-T = GTYPE1 ..
* 341 *
* 342 *      E-W      HEIGHT = 17.8 WIDTH = 87.0 CONS = WALL_CON
* 343 *              AZIMUTH = 315 ..
* 344 *
* 345 *      DOOR     HEIGHT = 7.5 WIDTH = 3.0 CONS = DOOR_CON ..
* 346 *
* 347 *      E-W      HEIGHT = 17.8 WIDTH = 36.0 CONS = WALL_CON
* 348 *              AZIMUTH = 225 ..
* 349 *
* 350 *
* 351 *      AMB_GARAGE =SPACE AREA = 1814.0 VOLUME = 29028.0
* 352 *                      AZIMUTH = 315 ZONE-TYPE = CONDITIONED
* 353 *                      PEOPLE-SCHEDULE = PEOPLE_Y NUMBER-OF-PEOPLE = 10.0
* 354 *                      PEOPLE-HEAT-GAIN = 500.0 PEOPLE-HG-SENS = 1.0
* 355 *                      LIGHTING-TYPE = REC-FLUOR-RV
* 356 *                      LIGHTING-SCHEDULE = LIGHT_SCHD
* 357 *                      EQUIP-SCHEDULE = FULL_ON EQUIPMENT-KW = 5.6
* 358 *                      EQUIP-SENSIBLE = 0.0 INF-METHOD = AIR-CHANGE
* 359 *                      AIR-CHANGES/HR = 3.64 INF-SCHEDULE = FULL_ON ..
* 360 *
* 361 *      ROOF     HEIGHT = 61.5 WIDTH = 29.5 CONS = ROOF_CON
* 362 *              AZIMUTH = 315 TILT = 0 ..
* 363 *
* 364 *      U-W      HEIGHT = 61.5 WIDTH = 29.5 CONS = FLOORCON
* 365 *              AZIMUTH = 315 ..
* 366 *
* 367 *      E-W      HEIGHT = 16.0 WIDTH = 62.5 CONS = WALL_CON
* 368 *              AZIMUTH = 45 ..
* 369 *
* 370 *      E-W      HEIGHT = 16.0 WIDTH = 29.5 CONS = WALL_CON
* 371 *              AZIMUTH = 315 ..
* 372 *
* 373 *      DOOR     HEIGHT = 7.5 WIDTH = 3.0 CONS = DOOR_CON ..
* 374 *
* 375 *      E-W      HEIGHT = 16.0 WIDTH = 61.5 CONS = WALL_CON
* 376 *              AZIMUTH = 225 ..
* 377 *
* 378 *      DOOR     HEIGHT = 7.5 WIDTH = 3.0 CONS = DOOR_CON ..
* 379 *
* 380 *      DOOR     HEIGHT = 9.5 WIDTH = 11.0 CONS = DOOR_CON
* 381 *              MULTIPLIER = 5.0 ..
* 382 *
* 383 *
* 384 *      ADDITION =SPACE AREA = 2080.0 VOLUME = 23920.0
* 385 *                      AZIMUTH = 315 ZONE-TYPE = CONDITIONED
* 386 *                      PEOPLE-SCHEDULE = PEOPLE_Y NUMBER-OF-PEOPLE = 40.0
* 387 *                      PEOPLE-HEAT-GAIN = 450.0 PEOPLE-HG-LAT = 0.2
* 388 *                      PEOPLE-HG-SENS = 0.8 LIGHTING-TYPE = REC-FLUOR-RV
* 389 *                      LIGHTING-W/SOFT = 1.0 LIGHTING-SCHEDULE = LIGHT_SCHD
* 390 *                      EQUIP-SCHEDULE = PEOPLE_Y EQUIPMENT-KW = 15.0
* 391 *                      EQUIP-SENSIBLE = 0.3 INF-METHOD = AIR-CHANGE
* 392 *                      AIR-CHANGES/HR = 0.33 INF-SCHEDULE = FULL_ON ..
* 393 *
* 394 *      U-W      HEIGHT = 65.0 WIDTH = 32.0 CONS = FLOORCON
* 395 *              AZIMUTH = 315 ..
* 396 *
* 397 *      ROOF     HEIGHT = 65.0 WIDTH = 32.0 CONS = ROOF_CON
* 398 *              AZIMUTH = 315 TILT = 0 ..
* 399 *
* 400 *      WINDOW   HEIGHT = 4.0 WIDTH = 4.0 G-T = GTYPE1
* 401 *              MULTIPLIER = 6.0 ..
* 402 *
* 403 *      DOOR     HEIGHT = 7.5 WIDTH = 3.0 CONS = DOOR_CON ..
* 404 *
* 405 *      E-W      HEIGHT = 8.0 WIDTH = 32.0 CONS = WALL_CON
* 406 *              AZIMUTH = 135 ..
* 407 *
* 408 *      WINDOW   HEIGHT = 4.0 WIDTH = 4.0 G-T = GTYPE1 ..
* 409 *
* 410 *      E-W      HEIGHT = 8.0 WIDTH = 65.0 CONS = WALL_CON
* 411 *              AZIMUTH = 225 ..
* 412 *
* 413 *      E-W      HEIGHT = 8.0 WIDTH = 11.0 CONS = WALL_CON
* 414 *              AZIMUTH = 315 ..
* 415 *
* 416 *
* 417 *      END ..
* 418 *      COMPUTE LOADS ..
* 419 *
* 420 *      INPUT SYSTEMS ..

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SDL PROCESSOR INPUT DATA

3/27/1995 14: 3:51 SDL RUN 1

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* 421 *
* 422 *
* 423 *
* 424 *          $-----$
* 425 *          $ E Z - D O E   S Y S T E M S   I N P U T $
* 426 *          $-----$
* 427 *
* 428 *          $ GENERAL PROJECT DATA
* 429 *
* 429 * TITLE LINE-1 * EMC ENGINEERS INC. *
* 430 * LINE-2 * EZDOE - ELITE SOFTWARE DEVELOPMENT INC*
* 431 * LINE-3 * DENVER, CO 80227 *
* 432 *
* 433 * LINE-4 * BUILDING 11050, AMBULATORY HEALTH CARE *
* 434 * LINE-5 * CLINIC & MED LOGISTICS/STOR - MODEL W SB* ..
* 435 * ABORT ERRORS ..
* 436 * DIAGNOSTIC WARNINGS ..
* 437 * SYSTEMS-REPORT SUMMARY=(SS-A,SS-B,SS-C,SS-K) ..
* 438 *
* 439 *          $ SCHEDULES
* 440 *
* 441 * FULL_ON_D =DAY-SCHEDULE (1,24) (1.) ..
* 442 * FULL_OFF_D =DAY-SCHEDULE (1,24) (0.) ..
* 443 * COOL75_D =DAY-SCHEDULE (1,24) (75.) ..
* 444 * HEAT70_D =DAY-SCHEDULE (1,24) (73.) ..
* 445 * HEAT65_D =DAY-SCHEDULE (1,24) (65.) ..
* 446 * FAN_WSB_D =DAY-SCHEDULE (1,4) (0.)
* 447 * (5,17) (1.)
* 448 * (18,24) (0.) ..
* 449 * HT70_WSB_D =DAY-SCHEDULE (1,4) (50.)
* 450 * (5,17) (73.)
* 451 * (18,24) (50.) ..
* 452 * CL75_WSB_D =DAY-SCHEDULE (1,4) (85.)
* 453 * (5,17) (75.)
* 454 * (18,24) (85.) ..
* 455 * HEAT_50_D =DAY-SCHEDULE (1,24) (50.) ..
* 456 * COOL_85_D =DAY-SCHEDULE (1,24) (85.) ..
* 457 *
* 458 * FULL_ON_W =WEEK-SCHEDULE (ALL) FULL_ON_D ..
* 459 *
* 460 * FULL_OFF_W =WEEK-SCHEDULE (ALL) FULL_OFF_D ..
* 461 *
* 462 * COOL75_W =WEEK-SCHEDULE (ALL) COOL75_D ..
* 463 *
* 464 * HEAT70_W =WEEK-SCHEDULE (ALL) HEAT70_D ..
* 465 *
* 466 * HEAT65_W =WEEK-SCHEDULE (ALL) HEAT65_D ..
* 467 *
* 468 * FAN_WSB_W =WEEK-SCHEDULE (WD) FAN_WSB_D
* 469 * (SAT) FULL_OFF_D
* 470 * (SUN) FULL_OFF_D
* 471 * (HOL) FAN_WSB_D ..
* 472 *
* 473 * HT70_WSB_W =WEEK-SCHEDULE (WD) HT70_WSB_D
* 474 * (SAT) HEAT_50_D
* 475 * (SUN) HEAT_50_D
* 476 * (HOL) HT70_WSB_D ..
* 477 *
* 478 * CL75_WSB_W =WEEK-SCHEDULE (WD) CL75_WSB_D
* 479 * (SAT) COOL_85_D
* 480 * (SUN) COOL_85_D
* 481 * (HOL) CL75_WSB_D ..
* 482 *
* 483 *
* 484 * $ FULL ON SCHEDULE
* 485 * FULL_ON =SCHEDULE THRU DEC 31 FULL_ON_W ..
* 486 *
* 487 * $ FULL OFF SCHEDULE
* 488 * FULL_OFF =SCHEDULE THRU DEC 31 FULL_OFF_W ..
* 489 *
* 490 * $ HEATING SCHEDULE, 70F
* 491 * HEAT70_SCH =SCHEDULE THRU DEC 31 HEAT70_W ..
* 492 *
* 493 * $ COOLING SCHEDULE, 75F
* 494 * COOL75_SCH =SCHEDULE THRU DEC 31 COOL75_W ..
* 495 *
* 496 * $ GARAGE HEATING SCHEDULE
* 497 * HEAT65 =SCHEDULE THRU DEC 31 HEAT65_W ..
* 498 *
* 499 * $ HEATING HOURS
* 500 * HEAT_HRS =SCHEDULE THRU MAY 15 FULL_ON_W
* 501 * THRU OCT 1 FULL_OFF_W
* 502 * THRU DEC 31 FULL_ON_W ..
* 503 *
* 504 * $ COOLING HOURS AVAIL.
* 505 * COOL_HRS =SCHEDULE THRU MAY 15 FULL_OFF_W
* 506 * THRU OCT 1 FULL_ON_W
* 507 * THRU DEC 31 FULL_OFF_W ..
* 508 *
* 509 * $ FAN SET BACK SCHEDULE
* 510 * FAN_W_SB =SCHEDULE THRU DEC 31 FAN_WSB_W ..
* 511 *
* 512 * $ HEATING SET BACK SCHED
* 513 * HT_70_W_SB =SCHEDULE THRU DEC 31 HT70_WSB_W ..
* 514 *
* 515 * CL_75_W_SB =SCHEDULE THRU DEC 31 CL75_WSB_W ..
* 516 *
* 517 *
* 518 *
* 519 *          $ ZONE DESCRIPTION
* 520 *

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* 521 * CLINIC_SW =ZONE DESIGN-HEAT-T = 70.0 DESIGN-COOL-T = 75.0
* 522 * HEAT-TEMP-SCH = HT_70_W_SB COOL-TEMP-SCH = CL_75_W_SB
* 523 * ZONE-TYPE = CONDITIONED
* 524 * THERMOSTAT-TYPE = PROPORTIONAL THROTTLING-RANGE = 1.0
* 525 * BASEBOARD-CTRL = THERMOSTATIC
* 526 * BASEBOARD-RATING = -47170000. ASSIGNED-CFM = 10130.
* 527 * OUTSIDE-AIR-CFM = 4635. SIZING-OPTION = FROM-LOADS
* 528 * RATED-CFM = 10130.0 MIN-CFM-RATIO = 0.75
* 529 * HEATING-CAPACITY = -487800.0
* 530 * COOLING-CAPACITY = 306220.0 ..
* 531 *
* 532 * CLINIC_NW =ZONE DESIGN-HEAT-T = 70.0 DESIGN-COOL-T = 75.0
* 533 * HEAT-TEMP-SCH = HEAT70_SCH COOL-TEMP-SCH = COOL75_SCH
* 534 * ZONE-TYPE = CONDITIONED
* 535 * THERMOSTAT-TYPE = PROPORTIONAL THROTTLING-RANGE = 1.0
* 536 * BASEBOARD-CTRL = THERMOSTATIC
* 537 * BASEBOARD-RATING = -21716000. ASSIGNED-CFM = 3190.
* 538 * OUTSIDE-AIR-CFM = 800. SIZING-OPTION = FROM-LOADS
* 539 * RATED-CFM = 3190.0 MIN-CFM-RATIO = 0.77
* 540 * HEATING-CAPACITY = -120000.0
* 541 * COOLING-CAPACITY = 96494.0 ..
* 542 *
* 543 * OPER_ROOMS =ZONE DESIGN-HEAT-T = 70.0 DESIGN-COOL-T = 75.0
* 544 * HEAT-TEMP-SCH = HEAT70_SCH COOL-TEMP-SCH = COOL75_SCH
* 545 * ZONE-TYPE = CONDITIONED
* 546 * THERMOSTAT-TYPE = PROPORTIONAL THROTTLING-RANGE = 1.0
* 547 * BASEBOARD-CTRL = THERMOSTATIC ASSIGNED-CFM = 2100.
* 548 * SIZING-OPTION = FROM-LOADS RATED-CFM = 2100.0
* 549 * MIN-CFM-RATIO = 1.0 HEATING-CAPACITY = -176600.0
* 550 * COOLING-CAPACITY = 83927.0 ..
* 551 *
* 552 * CLINIC_N =ZONE DESIGN-HEAT-T = 70.0 DESIGN-COOL-T = 75.0
* 553 * HEAT-TEMP-SCH = HEAT70_SCH COOL-TEMP-SCH = COOL75_SCH
* 554 * ZONE-TYPE = CONDITIONED
* 555 * THERMOSTAT-TYPE = PROPORTIONAL THROTTLING-RANGE = 1.0
* 556 * BASEBOARD-CTRL = THERMOSTATIC ASSIGNED-CFM = 4005.
* 557 * OUTSIDE-AIR-CFM = 1390. SIZING-OPTION = FROM-LOADS
* 558 * RATED-CFM = 4005.0 MIN-CFM-RATIO = 0.87
* 559 * HEATING-CAPACITY = -165300.0
* 560 * COOLING-CAPACITY = 121147.0 ..
* 561 *
* 562 * CLINIC_NE =ZONE DESIGN-HEAT-T = 70.0 DESIGN-COOL-T = 75.0
* 563 * HEAT-TEMP-SCH = HT_70_W_SB COOL-TEMP-SCH = CL_75_W_SB
* 564 * ZONE-TYPE = CONDITIONED
* 565 * THERMOSTAT-TYPE = PROPORTIONAL THROTTLING-RANGE = 1.0
* 566 * BASEBOARD-CTRL = THERMOSTATIC
* 567 * BASEBOARD-RATING = -15469200. ASSIGNED-CFM = 9915.
* 568 * OUTSIDE-AIR-CFM = 3720. SIZING-OPTION = FROM-LOADS
* 569 * RATED-CFM = 9915.0 MIN-CFM-RATIO = 0.38
* 570 * HEATING-CAPACITY = -383300.0
* 571 * COOLING-CAPACITY = 299920.0 ..
* 572 *
* 573 * CLINIC_S =ZONE DESIGN-HEAT-T = 70.0 DESIGN-COOL-T = 75.0
* 574 * HEAT-TEMP-SCH = HT_70_W_SB COOL-TEMP-SCH = CL_75_W_SB
* 575 * ZONE-TYPE = CONDITIONED
* 576 * THERMOSTAT-TYPE = PROPORTIONAL THROTTLING-RANGE = 1.0
* 577 * BASEBOARD-CTRL = THERMOSTATIC
* 578 * BASEBOARD-RATING = -66175000. ASSIGNED-CFM = 13685.
* 579 * OUTSIDE-AIR-CFM = 3420. SIZING-OPTION = FROM-LOADS
* 580 * RATED-CFM = 13685.0 MIN-CFM-RATIO = 0.81
* 581 * EXHAUST-CFM = 3420.0 HEATING-CAPACITY = -586000.0
* 582 * COOLING-CAPACITY = 413960.0 ..
* 583 *
* 584 * OFFICES =ZONE DESIGN-HEAT-T = 70.0 DESIGN-COOL-T = 80.0
* 585 * HEAT-TEMP-SCH = HT_70_W_SB ZONE-TYPE = CONDITIONED
* 586 * THERMOSTAT-TYPE = PROPORTIONAL THROTTLING-RANGE = 1.0
* 587 * BASEBOARD-CTRL = THERMOSTATIC ASSIGNED-CFM = 5000.
* 588 * OUTSIDE-AIR-CFM = 450. SIZING-OPTION = FROM-LOADS
* 589 * RATED-CFM = 5000.0 MIN-CFM-RATIO = 1.0
* 590 * HEATING-CAPACITY = -185000.0 ..
* 591 *
* 592 * STORAGE =ZONE DESIGN-HEAT-T = 65.0 DESIGN-COOL-T = 80.0
* 593 * HEAT-TEMP-SCH = HEAT65 ZONE-TYPE = CONDITIONED
* 594 * THERMOSTAT-TYPE = PROPORTIONAL THROTTLING-RANGE = 1.0
* 595 * BASEBOARD-CTRL = THERMOSTATIC
* 596 * BASEBOARD-RATING = -62800. ASSIGNED-CFM = 9000.
* 597 * OUTSIDE-AIR-CFM = 810. SIZING-OPTION = FROM-LOADS
* 598 * RATED-CFM = 9000.0 MIN-CFM-RATIO = 1.0
* 599 * HEATING-CAPACITY = -11700.0 ..
* 600 *
* 601 * AMB_GARAGE =ZONE DESIGN-HEAT-T = 65.0 DESIGN-COOL-T = 90.0
* 602 * HEAT-TEMP-SCH = HEAT65 ZONE-TYPE = CONDITIONED
* 603 * THERMOSTAT-TYPE = PROPORTIONAL THROTTLING-RANGE = 1.0
* 604 * BASEBOARD-CTRL = THERMOSTATIC ASSIGNED-CFM = 1746.
* 605 * SIZING-OPTION = FROM-LOADS RATED-CFM = 1746.0
* 606 * MIN-CFM-RATIO = 1.0 ..
* 607 *
* 608 * ADDITION =ZONE DESIGN-HEAT-T = 70.0 DESIGN-COOL-T = 75.0
* 609 * HEAT-TEMP-SCH = HT_70_W_SB COOL-TEMP-SCH = CL_75_W_SB
* 610 * ZONE-TYPE = CONDITIONED
* 611 * THERMOSTAT-TYPE = PROPORTIONAL THROTTLING-RANGE = 1.0
* 612 * BASEBOARD-CTRL = THERMOSTATIC ASSIGNED-CFM = 3400.
* 613 * OUTSIDE-AIR-CFM = 510. SIZING-OPTION = FROM-LOADS
* 614 * RATED-CFM = 3400.0 MIN-CFM-RATIO = 1.0
* 615 * EXHAUST-CFM = 510.0 HEATING-CAPACITY = -142200.0
* 616 * COOLING-CAPACITY = 102000.0 ..
* 617 *
* 618 *
* 619 *
* 620 *
* 621 * AHU_1 =SYSTEM $ SYSTEM DESCRIPTION
* 622 * SYSTEM-TYPE = VAVS
* 623 * MAX-SUPPLY-T = 135.0 MIN-SUPPLY-T = 65.0
* 624 * HEATING-SCHEDULE = FULL ON
* 625 * COOLING-SCHEDULE = FULL ON PREHEAT-T = 54.5
* 626 * MIN-HUMIDITY = 30.0 ECONO-LIMIT-T = 65.0
* 627 * ECONO-LOW-LIMIT = 55.0 SUPPLY-CFM = 10130.
* 628 * RETURN-CFM = 6483. RATED-CFM = 10130.
* MIN-OUTSIDE-AIR = 0.46 FAN-SCHEDULE = FAN_W_SB

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* 629 *      SUPPLY-DELTA-T = 3.4  SUPPLY-KW = 0.00084
* 630 *      NIGHT-CYCLE-CTRL = STAY-OFF  RETURN-STATIC = 1.0
* 631 *      RETURN-EFF = 0.97  NIGHT-VENT-DT = 0.0
* 632 *      MIN-CFM-RATIO = 0.75  REHEAT-DELTA-T = 20.5
* 633 *      COOLING-CAPACITY = 306422.
* 634 *      HEATING-CAPACITY = -487800.  FURNACE-AUX = 0.
* 635 *      PREHEAT-SOURCE = HOT-WATER
* 636 *      SIZING-OPTION = COINCIDENT  RETURN-AIR-PATH = DIRECT
* 637 *      ZONE-NAMES = (CLINIC_SW) ..
* 638 *
* 639 * AHU_2      =SYSTEM  SYSTEM-TYPE = VAVS
* 640 *      MAX-SUPPLY-T = 135.0  MIN-SUPPLY-T = 65.0
* 641 *      HEATING-SCHEDULE = FULL_ON
* 642 *      COOLING-SCHEDULE = FULL_ON  PREHEAT-T = 63.3
* 643 *      MIN-HUMIDITY = 30.0  ECONO-LIMIT-T = 65.0
* 644 *      ECONO-LOW-LIMIT = 55.0  SUPPLY-CFM = 3190.
* 645 *      RETURN-CFM = 2329.  RATED-CFM = 3190.
* 646 *      MIN-OUTSIDE-AIR = 0.27  SUPPLY-DELTA-T = 3.4
* 647 *      SUPPLY-KW = 0.00089
* 648 *      MOTOR-PLACEMENT = OUTSIDE-AIRFLOW
* 649 *      NIGHT-CYCLE-CTRL = STAY-OFF  RETURN-STATIC = 0.9
* 650 *      RETURN-EFF = 0.97  NIGHT-VENT-DT = 0.0
* 651 *      MIN-CFM-RATIO = 0.77  REHEAT-DELTA-T = 6.7
* 652 *      COOLING-CAPACITY = 96494.
* 653 *      HEATING-CAPACITY = -120000.  FURNACE-AUX = 0.
* 654 *      PREHEAT-SOURCE = HOT-WATER
* 655 *      SIZING-OPTION = COINCIDENT  RETURN-AIR-PATH = DIRECT
* 656 *      ZONE-NAMES = (CLINIC_NW) ..
* 657 *
* 658 * AHU_3      =SYSTEM  SYSTEM-TYPE = VAVS
* 659 *      MAX-SUPPLY-T = 135.0  MIN-SUPPLY-T = 65.0
* 660 *      HEATING-SCHEDULE = FULL_ON
* 661 *      COOLING-SCHEDULE = FULL_ON  PREHEAT-T = 49.0
* 662 *      MIN-HUMIDITY = 30.0  ECONO-LIMIT-T = 65.0
* 663 *      ECONO-LOW-LIMIT = 55.0  SUPPLY-CFM = 2100.
* 664 *      RATED-CFM = 2100.  MIN-OUTSIDE-AIR = 1.0
* 665 *      RECOVERY-EFF = 0.41  SUPPLY-DELTA-T = 3.4
* 666 *      SUPPLY-KW = 0.00107
* 667 *      MOTOR-PLACEMENT = OUTSIDE-AIRFLOW
* 668 *      NIGHT-CYCLE-CTRL = STAY-OFF  RETURN-STATIC = 2.0
* 669 *      RETURN-EFF = 0.97  NIGHT-VENT-DT = 0.0
* 670 *      MIN-CFM-RATIO = 0.76  REHEAT-DELTA-T = 26.
* 671 *      COOLING-CAPACITY = 83927.
* 672 *      HEATING-CAPACITY = -176600.  FURNACE-AUX = 0.
* 673 *      PREHEAT-SOURCE = HOT-WATER
* 674 *      SIZING-OPTION = COINCIDENT  RETURN-AIR-PATH = DIRECT
* 675 *      ZONE-NAMES = (OPER_ROOMS) ..
* 676 *
* 677 * AHU_4      =SYSTEM  SYSTEM-TYPE = VAVS
* 678 *      MAX-SUPPLY-T = 135.0  MIN-SUPPLY-T = 65.0
* 679 *      HEATING-SCHEDULE = FULL_ON
* 680 *      COOLING-SCHEDULE = FULL_ON  PREHEAT-T = 55.8
* 681 *      MIN-HUMIDITY = 30.0  ECONO-LIMIT-T = 65.0
* 682 *      ECONO-LOW-LIMIT = 55.0  SUPPLY-CFM = 4005.
* 683 *      RETURN-CFM = 2523.  RATED-CFM = 4005.
* 684 *      MIN-OUTSIDE-AIR = 0.37  SUPPLY-DELTA-T = 3.4
* 685 *      SUPPLY-KW = 0.00078  NIGHT-CYCLE-CTRL = STAY-OFF
* 686 *      RETURN-STATIC = 0.7  RETURN-EFF = 0.97
* 687 *      NIGHT-VENT-DT = 0.0  MIN-CFM-RATIO = 0.87
* 688 *      REHEAT-DELTA-T = 14.2  COOLING-CAPACITY = 121147.
* 689 *      HEATING-CAPACITY = -165300.  FURNACE-AUX = 0.
* 690 *      PREHEAT-SOURCE = HOT-WATER
* 691 *      SIZING-OPTION = COINCIDENT  RETURN-AIR-PATH = DIRECT
* 692 *      ZONE-NAMES = (CLINIC_N) ..
* 693 *
* 694 * AHU_5      =SYSTEM  SYSTEM-TYPE = VAVS
* 695 *      MAX-SUPPLY-T = 135.0  MIN-SUPPLY-T = 65.0
* 696 *      HEATING-SCHEDULE = FULL_ON
* 697 *      COOLING-SCHEDULE = FULL_ON  PREHEAT-T = 58.8
* 698 *      MIN-HUMIDITY = 30.0  ECONO-LIMIT-T = 65.0
* 699 *      ECONO-LOW-LIMIT = 55.0  SUPPLY-CFM = 9915.
* 700 *      RETURN-CFM = 7436.  RATED-CFM = 9915.
* 701 *      MIN-OUTSIDE-AIR = 0.25  FAN-SCHEDULE = FAN_W_SB
* 702 *      SUPPLY-DELTA-T = 3.4  SUPPLY-KW = 0.00055
* 703 *      MOTOR-PLACEMENT = OUTSIDE-AIRFLOW
* 704 *      NIGHT-CYCLE-CTRL = STAY-OFF  RETURN-STATIC = 1.0
* 705 *      RETURN-EFF = 0.97  NIGHT-VENT-DT = 0.0
* 706 *      MIN-CFM-RATIO = 0.76  REHEAT-DELTA-T = 11.2
* 707 *      COOLING-CAPACITY = 299920.
* 708 *      HEATING-CAPACITY = -383300.  FURNACE-AUX = 0.
* 709 *      PREHEAT-SOURCE = HOT-WATER
* 710 *      SIZING-OPTION = COINCIDENT  RETURN-AIR-PATH = DIRECT
* 711 *      ZONE-NAMES = (CLINIC_NE) ..
* 712 *
* 713 * AHU_6      =SYSTEM  SYSTEM-TYPE = VAVS
* 714 *      MAX-SUPPLY-T = 135.0  MIN-SUPPLY-T = 65.0
* 715 *      HEATING-SCHEDULE = FULL_ON
* 716 *      COOLING-SCHEDULE = FULL_ON  PREHEAT-T = 60.0
* 717 *      MIN-HUMIDITY = 30.0  ECONO-LIMIT-T = 65.0
* 718 *      ECONO-LOW-LIMIT = 55.0  SUPPLY-CFM = 13685.
* 719 *      RETURN-CFM = 3421.  RATED-CFM = 13685.
* 720 *      MIN-OUTSIDE-AIR = 0.25  FAN-SCHEDULE = FAN_W_SB
* 721 *      SUPPLY-DELTA-T = 3.4  SUPPLY-KW = 0.00053
* 722 *      MOTOR-PLACEMENT = OUTSIDE-AIRFLOW
* 723 *      NIGHT-CYCLE-CTRL = STAY-OFF  RETURN-STATIC = 1.1
* 724 *      RETURN-EFF = 0.97  NIGHT-VENT-DT = 0.0
* 725 *      MIN-CFM-RATIO = 0.81  REHEAT-DELTA-T = 15.
* 726 *      COOLING-CAPACITY = 413960.
* 727 *      HEATING-CAPACITY = -189941.  FURNACE-AUX = 0.
* 728 *      PREHEAT-SOURCE = HOT-WATER
* 729 *      SIZING-OPTION = COINCIDENT  RETURN-AIR-PATH = DIRECT
* 730 *      ZONE-NAMES = (CLINIC_S) ..
* 731 *
* 732 * AHU_1X     =SYSTEM  SYSTEM-TYPE = HVSYS
* 733 *      MAX-SUPPLY-T = 135.0  HEATING-SCHEDULE = FULL_ON
* 734 *      MIN-HUMIDITY = 30.0  ECONO-LIMIT-T = 65.0
* 735 *      ECONO-LOW-LIMIT = 55.0  SUPPLY-CFM = 5000.
* 736 *      RETURN-CFM = 4573.  RATED-CFM = 5000.

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* 737 *      MIN-OUTSIDE-AIR = 0.09  FAN-SCHEDULE = FAN_W_SB
* 738 *      SUPPLY-DELTA-T = 2.4  SUPPLY-KW = 0.0006
* 739 *      MOTOR-PLACEMENT = OUTSIDE-AIRFLOW
* 740 *      NIGHT-CYCLE-CTRL = STAY-OFF  NIGHT-VENT-DT = 0.0
* 741 *      HEATING-CAPACITY = -185000.  FURNACE-AUX = 0.
* 742 *      ZONE-NAMES = (OFFICES)  ..
* 743 *
* 744 *  AHU_2X      =SYSTEM  SYSTEM-TYPE = HVSYS
* 745 *      MAX-SUPPLY-T = 135.0  HEATING-SCHEDULE = FULL_ON
* 746 *      MIN-HUMIDITY = 30.0  ECONO-LIMIT-T = 65.0
* 747 *      ECONO-LOW-LIMIT = 55.0  SUPPLY-CFM = 9000.
* 748 *      RETURN-CFM = 8190.  RATED-CFM = 9000.
* 749 *      MIN-OUTSIDE-AIR = 0.09  FAN-SCHEDULE = FAN_W_SB
* 750 *      SUPPLY-DELTA-T = 2.4  SUPPLY-KW = 0.00059
* 751 *      MOTOR-PLACEMENT = OUTSIDE-AIRFLOW
* 752 *      NIGHT-CYCLE-CTRL = STAY-OFF  NIGHT-VENT-DT = 0.0
* 753 *      HEATING-CAPACITY = -198800.  FURNACE-AUX = 0.
* 754 *      ZONE-NAMES = (STORAGE)  ..
* 755 *
* 756 *  GARAGE_UH   =SYSTEM  SYSTEM-TYPE = UHT
* 757 *      MAX-SUPPLY-T = 135.0  HEATING-SCHEDULE = FULL_ON
* 758 *      RATED-CFM = 1746.  SUPPLY-DELTA-T = 0.18
* 759 *      SUPPLY-KW = 0.000059
* 760 *      NIGHT-CYCLE-CTRL = CYCLE-ON-ANY
* 761 *      HEATING-CAPACITY = -100000.  FURNACE-AUX = 0.
* 762 *      ZONE-NAMES = (AMB_GARAGE)  ..
* 763 *
* 764 *  ADDIT_AHU   =SYSTEM  SYSTEM-TYPE = PTAC
* 765 *      MAX-SUPPLY-T = 135.0  MIN-SUPPLY-T = 45.0
* 766 *      HEATING-SCHEDULE = FULL_ON
* 767 *      COOLING-SCHEDULE = FULL_ON  SUPPLY-CFM = 3400.
* 768 *      RATED-CFM = 3400.  MIN-OUTSIDE-AIR = 0.1
* 769 *      FAN-SCHEDULE = FAN_W_SB
* 770 *      FAN-CONTROL = CONSTANT-VOLUME  SUPPLY-DELTA-T = 0.2
* 771 *      SUPPLY-KW = 0.00007  NIGHT-CYCLE-CTRL = STAY-OFF
* 772 *      NIGHT-VENT-DT = 0.0  COOLING-CAPACITY = 102000.
* 773 *      COOL-FR-MIN = 0.  HEATING-CAPACITY = -142200.
* 774 *      MIN-HP-T = 0.  HP-SUPP-SOURCE = HOT-WATER
* 775 *      FURNACE-AUX = 0.  HEAT-SOURCE = GAS-FURNACE
* 776 *      ZONE-NAMES = (ADDITION)  ..
* 777 *
* 778 *  END  ..
* 779 *  COMPUTE SYSTEMS  ..
* 780 *
* 781 *  INPUT PLANT  ..

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P D L P R O C E S S O R I N P U T D A T A

3/27/1995 14: 3:51 PDL RUN 1

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$-----$
$ E Z - D O E P L A N T S I N P U T $
$-----$

$ GENERAL PROJECT DATA

TITLE LINE-1 * EMC ENGINEERS INC. *
LINE-2 *EZDOE - ELITE SOFTWARE DEVELOPMENT INC*
LINE-3 * DENVER, CO 80227 *
LINE-4 *BUILDING 11050, AMBULATORY HEALTH CARE *
LINE-5 *CLINIC & MED LOGISTICS/STOR - MODEL W SB* ..

ABORT ERRORS ..
DIAGNOSTIC WARNINGS ..
PLANT-REPORT SUMMARY=(PS-A,PS-B,BEPS)
..

$ SCHEDULES

HX_D =DAY-SCHEDULE (1,24) (1.) ..
HX_W =WEEK-SCHEDULE (ALL) HX_D ..

$ HEAT EXCHGER SCHEDULE
HX_SCHED =SCHEDULE THRU DEC 31 HX_W ..

$ EQUIPMENT DESCRIPTION

HX1A&B&X =PLANT-EQUIPMENT TYPE = HTANK-STORAGE
SIZE = 2.6 ..
ACCUS =PLANT-EQUIPMENT TYPE = OPEN-REC-CHLR
SIZE = 0.5 INSTALLED-NUMBER = 6
MAX-NUMBER-AVAIL = 6 ..

PLANT-PARAMETERS MAKEUP-WTR-T = 160. OPEN-REC-COND-TYPE = AIR
OPEN-CENT-COND-PWR = 0.15 OPEN-REC-COND-PWR = 0.15
OPEN-REC-UNL-RAT = 0.1 ..

ENERGY-RESOURCE RESOURCE = ELECTRICITY ..
ENERGY-RESOURCE RESOURCE = STEAM SOURCE-SITE-EFF = 1.000 ..
ENERGY-RESOURCE RESOURCE = FUEL-OIL ..
ENERGY-RESOURCE RESOURCE = NATURAL-GAS ..

ENERGY-STORAGE HEAT-STORE-RATE = 10.0 HEAT-SUPPLY-RATE = 10.0
HTANK-BASE-T = 195.0 HTANK-T-RANGE = 5.0
HEAT-STORE-SCH = HX_SCHED ..

HEAT-RECOVERY
SUPPLY-1 = (HTANK-STORAGE)
DEMAND-1 = (SPACE-HEAT) ..

END
COMPUTE PLANT ..
STOP ..

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ENERGY TYPE IN SITE MBTU-	STEAM	ELECTRICITY	NATURAL-GAS
CATEGORY OF USE			
SPACE HEAT	4,222.07	0.00	106.31
SPACE COOL	0.00	615.51	0.00
HVAC AUX	0.00	771.75	0.00
DOM HOT WTR	746.04	0.00	0.00
AUX SOLAR	0.00	0.00	0.00
LIGHTS	0.00	1,546.76	0.00
VERT TRANS	0.00	0.00	0.00
MISC EQUIP	0.00	2,491.89	0.00
	-----	-----	-----
TOTAL	4,968.11	5,425.92	106.31

TOTAL SITE ENERGY 10500.34 MBTU 136.6 KBTU/SQFT-YR GROSS-AREA 136.6 KBTU/SQFT-YR NET-AREA  
 TOTAL SOURCE ENERGY 21368.55 MBTU 278.1 KBTU/SQFT-YR GROSS-AREA 278.1 KBTU/SQFT-YR NET-AREA

PERCENT OF HOURS ANY SYSTEM ZONE OUTSIDE OF THROTTLING RANGE = 57.0  
 PERCENT OF HOURS ANY PLANT LOAD NOT SATISFIED = 0.0

NOTE ELECTRICITY AND/OR FUEL USED TO GENERATE ELECTRICITY IS APPORTIONED BASED  
 ON THE YEARLY DEMAND. ALL OTHER ENERGY TYPES ARE APPORTIONED HOURLY.

MO	UTILITY-	STEAM	ELECTRICITY	NATURAL-GAS
	TOTAL (MBTU)	906.976	428.595	26.758
JAN	PEAK (KBTU)	4340.132	926.010	185.598
	DY/HR	24/ 5	3/ 9	10/ 7
	TOTAL (MBTU)	696.437	388.498	18.854
FEB	PEAK (KBTU)	3737.614	921.461	159.678
	DY/HR	14/ 5	3/ 9	14/ 6
	TOTAL (MBTU)	716.903	432.620	18.023
MAR	PEAK (KBTU)	3564.591	936.697	152.575
	DY/HR	28/ 5	18/12	28/ 5
	TOTAL (MBTU)	425.937	429.386	6.569
APR	PEAK (KBTU)	2326.497	1007.728	101.930
	DY/HR	1/ 5	15/12	1/ 5
	TOTAL (MBTU)	284.984	462.704	2.263
MAY	PEAK (KBTU)	1816.697	1156.482	70.885
	DY/HR	2/ 5	31/12	3/ 5
	TOTAL (MBTU)	134.661	476.870	0.126
JUN	PEAK (KBTU)	826.038	1226.600	25.542
	DY/HR	8/ 5	17/12	8/ 5
	TOTAL (MBTU)	107.681	525.772	0.010
JUL	PEAK (KBTU)	429.333	1488.399	9.886
	DY/HR	14/ 5	18/12	14/ 5
	TOTAL (MBTU)	115.317	507.610	0.028
AUG	PEAK (KBTU)	559.473	1259.863	17.843
	DY/HR	25/ 5	9/12	25/ 5
	TOTAL (MBTU)	154.212	469.948	0.895
SEP	PEAK (KBTU)	1100.607	1431.201	44.929
	DY/HR	23/ 5	2/12	23/ 5
	TOTAL (MBTU)	278.596	447.859	3.787
OCT	PEAK (KBTU)	1583.498	1029.079	72.316
	DY/HR	25/ 5	10/ 9	28/ 5
	TOTAL (MBTU)	451.030	425.110	10.425
NOV	PEAK (KBTU)	2814.985	1044.756	131.328
	DY/HR	28/ 5	1/ 9	28/ 5
	TOTAL (MBTU)	695.334	430.988	18.571
DEC	PEAK (KBTU)	3235.318	949.161	155.783
	DY/HR	26/ 5	9/12	26/ 5
	ONE YEAR	4968.069	5425.959	106.309
	USE/PEAK	4340.132	1488.399	185.598

**COMPUTER SIMULATIONS**  
**BUILDING 11050**

RUN 3 - DDC

# LDL PROCESSOR INPUT DATA

3/19/1995 13:42:24 LDL RUN 1

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* 3 *
* 4 *
* 5 *
* 6 *
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* 9 *
* 10 *
* 11 * TITLE LINE-1 * EMC ENGINEERS INC. *
* 12 * LINE-2 *EZDOE - ELITE SOFTWARE DEVELOPMENT INC*
* 13 * LINE-3 * DENVER, CO 80227 *
* 14 *
* 15 * LINE-4 *BUILDING 11050, AMBULATORY HEALTH CARE *
* 16 * LINE-5 *MODEL WITH SETBACK AND DDC * ..
* 17 *
* 18 * ABORT ERRORS ..
* 19 * DIAGNOSTIC WARNINGS ..
* 20 * LOADS-REPORT SUMMARY=(LS-C,LS-D) ..
* 21 * BUILDING-LOCATION X-REF = 0.0
* 22 * Y-REF = 0.0 ..
* 23 * RUN-PERIOD JAN 1 1994 THRU DEC 31 1994 ..
* 24 *
* 25 *
* 26 * $ SCHEDULES
* 27 *
* 28 * FULL_ON_D =DAY-SCHEDULE (1,24) (1.) ..
* 29 *
* 30 * FULL_OFF_D =DAY-SCHEDULE (1,24) (0.) ..
* 31 *
* 32 * PEOPLE_D =DAY-SCHEDULE (1,5) (0.)
* 33 * (6,7) (0.5)
* 34 * (8,9) (0.6,0.9)
* 35 * (10,12) (1.)
* 36 * (13,18) (0.9)
* 37 * (19,20) (1.)
* 38 * (21) (0.3)
* 39 * (22,24) (0.) ..
* 40 *
* 41 * LIGHT_ON_D =DAY-SCHEDULE (1,5) (0.1)
* 42 * (6,10) (0.2,0.6,0.7,0.8,0.6)
* 43 * (11) (0.4)
* 44 * (12,13) (0.6)
* 45 * (14,17) (0.5)
* 46 * (18,19) (0.7)
* 47 * (20,22) (0.8,0.5,0.3)
* 48 * (23,24) (0.1) ..
* 49 *
* 50 * STRLZR_D =DAY-SCHEDULE (1,6) (0.)
* 51 * (7) (1.)
* 52 * (8,24) (0.) ..
* 53 *
* 54 *
* 55 * FULL_ON_W =WEEK-SCHEDULE (ALL) FULL_ON_D ..
* 56 *
* 57 * FULL_OFF_W =WEEK-SCHEDULE (ALL) FULL_OFF_D ..
* 58 *
* 59 * PEOPLE_W =WEEK-SCHEDULE (ALL) PEOPLE_D ..
* 60 *
* 61 * LIGHT_ON_W =WEEK-SCHEDULE (ALL) LIGHT_ON_D ..
* 62 *
* 63 * STRLZER_W =WEEK-SCHEDULE (ALL) STRLZER_D ..
* 64 *
* 65 *
* 66 * $ FULL ON SCHEDULE
* 67 * FULL_ON =SCHEDULE THRU DEC 31 FULL_ON_W ..
* 68 *
* 69 * $ FULL OFF SCHEDULE
* 70 * FULL_OFF =SCHEDULE THRU DEC 31 FULL_OFF_W ..
* 71 *
* 72 * $ OCCUPANCY SCHEDULE
* 73 * PEOPLE_Y =SCHEDULE THRU DEC 31 PEOPLE_W ..
* 74 *
* 75 * $ LIGHTING SCHEDULE
* 76 * LIGHT_SCHD =SCHEDULE THRU DEC 31 LIGHT_ON_W ..
* 77 *
* 78 * $ STERILIZER SCHEDULE
* 79 * STRLZR_Y =SCHEDULE THRU DEC 31 STRLZER_W ..
* 80 *
* 81 *
* 82 *
* 83 * $ CONSTRUCTION TYPES
* 84 *
* 85 *
* 86 *
* 87 * FLOORCON =CONSTRUCTION U-VALUE = 0.100 ..
* 88 * ROOF_CON =CONSTRUCTION U-VALUE = 0.030 ..
* 89 * WALL_CON =CONSTRUCTION U-VALUE = 0.140 ..
* 90 * DOOR_CON =CONSTRUCTION U-VALUE = 1.000 ..
* 91 *
* 92 * GTYPE1 =GLASS-TYPE GLASS-TYPE-CODE = 1
* 93 * PANES = 1
* 94 * GLASS-CONDUCTANCE = 1.130 ..
* 95 *
* 96 *
* 97 *
* 98 *
* 99 * $ SPACE DESCRIPTION
* 100 *
* 101 * CLINIC_SW =SPACE AREA = 8284.0 VOLUME = 66272.0
* 102 * AZIMUTH = 315 TEMPERATURE = (72.5)

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* 103 *      ZONE-TYPE = CONDITIONED  PEOPLE-SCHEDULE = PEOPLE_Y
* 104 *      NUMBER-OF-PEOPLE = 100.0  PEOPLE-HEAT-GAIN = 450.0
* 105 *      PEOPLE-HG-SENS = 1.0  LIGHTING-TYPE = REC-FLUOR-RV
* 106 *      LIGHTING-W/SQFT = 1.64
* 107 *      LIGHTING-SCHEDULE = LIGHT_SCHD
* 108 *      EQUIP-SCHEDULE = PEOPLE_Y  EQUIPMENT-KW = 20.0
* 109 *      EQUIP-SENSIBLE = 0.3  SOURCE-SCHEDULE = FULL_ON
* 110 *      SOURCE-TYPE = HOT-WATER  SOURCE-BTU/HR = 85160.0
* 111 *      SOURCE-SENSIBLE = 0.1  SOURCE-LATENT = 0.05
* 112 *      INF-METHOD = AIR-CHANGE  AIR-CHANGES/HR = 0.33
* 113 *      INF-SCHEDULE = FULL_ON  ..
* 114 *
* 115 *      U-W      HEIGHT = 148.5  WIDTH = 55.8  CONS = FLOORCON
* 116 *              AZIMUTH = 315  ..
* 117 *
* 118 *      ROOF     HEIGHT = 148.5  WIDTH = 55.8  CONS = ROOF_CON
* 119 *              AZIMUTH = 315  TILT = 0  ..
* 120 *
* 121 *      E-W      HEIGHT = 8.0  WIDTH = 11.0  CONS = WALL_CON
* 122 *              AZIMUTH = 135  ..
* 123 *
* 124 *      E-W      HEIGHT = 8.0  WIDTH = 148.5  CONS = WALL_CON
* 125 *              AZIMUTH = 225  ..
* 126 *
* 127 *      DOOR     HEIGHT = 7.5  WIDTH = 3.0  CONS = DOOR_CON
* 128 *              MULTIPLIER = 3.0  ..
* 129 *
* 130 *      WINDOW   HEIGHT = 4.0  WIDTH = 2.5  G-T = GTYPE1
* 131 *              MULTIPLIER = 3.0  ..
* 132 *
* 133 *      WINDOW   HEIGHT = 4.0  WIDTH = 2.5  G-T = GTYPE1
* 134 *              MULTIPLIER = 23.0  ..
* 135 *
* 136 *      E-W      HEIGHT = 8.0  WIDTH = 3.0  CONS = WALL_CON
* 137 *              AZIMUTH = 315  ..
* 138 *
* 139 *
* 140 *      CLINIC_NW =SPACE  AREA = 3048.0  VOLUME = 24384.0
* 141 *              AZIMUTH = 315  TEMPERATURE = (72.5)
* 142 *      ZONE-TYPE = CONDITIONED  PEOPLE-SCHEDULE = PEOPLE_Y
* 143 *      NUMBER-OF-PEOPLE = 100.0  PEOPLE-HEAT-GAIN = 450.0
* 144 *      PEOPLE-HG-SENS = 1.0  LIGHTING-TYPE = REC-FLUOR-RV
* 145 *      LIGHTING-W/SQFT = 1.64
* 146 *      LIGHTING-SCHEDULE = LIGHT_SCHD
* 147 *      EQUIP-SCHEDULE = FULL_ON  EQUIPMENT-KW = 20.0
* 148 *      EQUIP-SENSIBLE = 0.3  INF-METHOD = AIR-CHANGE
* 149 *      AIR-CHANGES/HR = 0.33  INF-SCHEDULE = FULL_ON  ..
* 150 *
* 151 *      U-W      HEIGHT = 84.0  WIDTH = 36.3  CONS = FLOORCON
* 152 *              AZIMUTH = 315  ..
* 153 *
* 154 *      ROOF     HEIGHT = 84.0  WIDTH = 36.3  CONS = ROOF_CON
* 155 *              AZIMUTH = 315  TILT = 0  ..
* 156 *
* 157 *      E-W      HEIGHT = 8.0  WIDTH = 104.0  CONS = WALL_CON
* 158 *              AZIMUTH = 225  ..
* 159 *
* 160 *      DOOR     HEIGHT = 7.5  WIDTH = 3.0  CONS = DOOR_CON
* 161 *              MULTIPLIER = 2.0  ..
* 162 *
* 163 *      WINDOW   HEIGHT = 4.0  WIDTH = 2.5  G-T = GTYPE1
* 164 *              MULTIPLIER = 12.0  ..
* 165 *
* 166 *      E-W      HEIGHT = 8.0  WIDTH = 5.0  CONS = WALL_CON
* 167 *              AZIMUTH = 135  ..
* 168 *
* 169 *      E-W      HEIGHT = 8.0  WIDTH = 55.5  CONS = WALL_CON
* 170 *              AZIMUTH = 315  ..
* 171 *
* 172 *      DOOR     HEIGHT = 7.5  WIDTH = 3.0  CONS = DOOR_CON
* 173 *              MULTIPLIER = 2.0  ..
* 174 *
* 175 *
* 176 *      OPER_ROOMS =SPACE  AREA = 880.0  VOLUME = 7040.0
* 177 *              AZIMUTH = 315  TEMPERATURE = (72.5)
* 178 *      ZONE-TYPE = CONDITIONED  PEOPLE-SCHEDULE = PEOPLE_Y
* 179 *      NUMBER-OF-PEOPLE = 20.0  PEOPLE-HEAT-GAIN = 450.0
* 180 *      PEOPLE-HG-SENS = 1.0  LIGHTING-TYPE = REC-FLUOR-RV
* 181 *      LIGHTING-W/SQFT = 1.64
* 182 *      LIGHTING-SCHEDULE = LIGHT_SCHD
* 183 *      EQUIP-SCHEDULE = PEOPLE_Y  EQUIPMENT-KW = 5.0
* 184 *      EQUIP-SENSIBLE = 0.3  INF-METHOD = NONE  ..
* 185 *
* 186 *      U-W      HEIGHT = 29.7  WIDTH = 29.7  CONS = FLOORCON
* 187 *              AZIMUTH = 315  ..
* 188 *
* 189 *      ROOF     HEIGHT = 29.7  WIDTH = 29.7  CONS = ROOF_CON
* 190 *              AZIMUTH = 315  TILT = 0  ..
* 191 *
* 192 *
* 193 *      CLINIC_N  =SPACE  AREA = 5350.0  VOLUME = 42800.0
* 194 *              AZIMUTH = 315  TEMPERATURE = (72.5)
* 195 *      ZONE-TYPE = CONDITIONED  PEOPLE-SCHEDULE = PEOPLE_Y
* 196 *      NUMBER-OF-PEOPLE = 100.0  PEOPLE-HEAT-GAIN = 450.0
* 197 *      PEOPLE-HG-SENS = 1.0  LIGHTING-TYPE = REC-FLUOR-RV
* 198 *      LIGHTING-W/SQFT = 1.64
* 199 *      LIGHTING-SCHEDULE = LIGHT_SCHD
* 200 *      EQUIP-SCHEDULE = PEOPLE_Y  EQUIPMENT-KW = 20.0
* 201 *      EQUIP-SENSIBLE = 0.3  SOURCE-SENSIBLE = 0.0
* 202 *      INF-METHOD = AIR-CHANGE  AIR-CHANGES/HR = 0.33
* 203 *      INF-SCHEDULE = FULL_ON  ..
* 204 *
* 205 *      U-W      HEIGHT = 73.1  WIDTH = 73.1  CONS = FLOORCON
* 206 *              AZIMUTH = 315  ..
* 207 *
* 208 *      ROOF     HEIGHT = 73.1  WIDTH = 73.1  CONS = ROOF_CON
* 209 *              AZIMUTH = 315  TILT = 0  ..
* 210 *

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* 211 *
* 212 * CLINIC_NE =SPACE AREA = 17116.0 VOLUME = 136924.0
* 213 * AZIMUTH = 315 TEMPERATURE = (72.5)
* 214 * ZONE-TYPE = CONDITIONED PEOPLE-SCHEDULE = PEOPLE_Y
* 215 * NUMBER-OF-PEOPLE = 100.0 PEOPLE-HEAT-GAIN = 450.0
* 216 * PEOPLE-HG-SENS = 1.0 LIGHTING-TYPE = REC-FLUOR-RV
* 217 * LIGHTING-W/SQFT = 1.64
* 218 * LIGHTING-SCHEDULE = LIGHT_SCHD
* 219 * EQUIP-SCHEDULE = PEOPLE_Y EQUIPMENT-KW = 20.0
* 220 * EQUIP-SENSIBLE = 0.3 INF-METHOD = AIR-CHANGE
* 221 * AIR-CHANGES/HR = 0.33 INF-SCHEDULE = FULL_ON ..
* 222 *
* 223 * U-W HEIGHT = 157.0 WIDTH = 109.0 CONS = FLOORCON
* 224 * AZIMUTH = 315 ..
* 225 *
* 226 * ROOF HEIGHT = 157.0 WIDTH = 109.0 CONS = ROOF_CON
* 227 * AZIMUTH = 315 TILT = 0 ..
* 228 *
* 229 * E-W HEIGHT = 8.0 WIDTH = 157.0 CONS = WALL_CON
* 230 * AZIMUTH = 45 ..
* 231 *
* 232 * DOOR HEIGHT = 7.5 WIDTH = 3.0 CONS = DOOR_CON
* 233 * MULTIPLIER = 2.0 ..
* 234 *
* 235 * DOOR HEIGHT = 11.0 WIDTH = 12.0 CONS = DOOR_CON ..
* 236 *
* 237 * E-W HEIGHT = 8.0 WIDTH = 109.0 CONS = WALL_CON
* 238 * AZIMUTH = 315 ..
* 239 *
* 240 * DOOR HEIGHT = 11.0 WIDTH = 12.0 CONS = DOOR_CON ..
* 241 *
* 242 * DOOR HEIGHT = 7.5 WIDTH = 3.0 CONS = DOOR_CON
* 243 * MULTIPLIER = 6.0 ..
* 244 *
* 245 * E-W HEIGHT = 8.0 WIDTH = 19.0 CONS = WALL_CON
* 246 * AZIMUTH = 225 ..
* 247 *
* 248 * DOOR HEIGHT = 7.5 WIDTH = 3.0 CONS = DOOR_CON
* 249 * MULTIPLIER = 2.0 ..
* 250 *
* 251 *
* 252 * CLINIC_S =SPACE AREA = 19956.0 VOLUME = 159648.0
* 253 * AZIMUTH = 315 TEMPERATURE = (72.5)
* 254 * ZONE-TYPE = CONDITIONED PEOPLE-SCHEDULE = PEOPLE_Y
* 255 * NUMBER-OF-PEOPLE = 100.0 PEOPLE-HEAT-GAIN = 450.0
* 256 * PEOPLE-HG-SENS = 1.0 LIGHTING-TYPE = REC-FLUOR-RV
* 257 * LIGHTING-W/SQFT = 1.64
* 258 * LIGHTING-SCHEDULE = LIGHT_SCHD
* 259 * EQUIP-SCHEDULE = PEOPLE_Y EQUIPMENT-KW = 20.0
* 260 * EQUIP-SENSIBLE = 0.3 INF-METHOD = AIR-CHANGE
* 261 * AIR-CHANGES/HR = 0.33 INF-SCHEDULE = FULL_ON ..
* 262 *
* 263 * U-W HEIGHT = 89.9 WIDTH = 222.0 CONS = FLOORCON
* 264 * AZIMUTH = 315 ..
* 265 *
* 266 * ROOF HEIGHT = 89.9 WIDTH = 222.0 CONS = ROOF_CON
* 267 * AZIMUTH = 315 TILT = 0 ..
* 268 *
* 269 * E-W HEIGHT = 8.0 WIDTH = 222.0 CONS = WALL_CON
* 270 * AZIMUTH = 135 TILT = 0 ..
* 271 *
* 272 * WINDOW HEIGHT = 4.0 WIDTH = 2.5 G-T = GTYPE1
* 273 * MULTIPLIER = 30.0 ..
* 274 *
* 275 * DOOR HEIGHT = 7.5 WIDTH = 3.0 CONS = DOOR_CON
* 276 * MULTIPLIER = 2.0 ..
* 277 *
* 278 * E-W HEIGHT = 8.0 WIDTH = 89.0 CONS = WALL_CON
* 279 * AZIMUTH = 45 TILT = 0 ..
* 280 *
* 281 * DOOR HEIGHT = 7.5 WIDTH = 3.0 CONS = DOOR_CON
* 282 * MULTIPLIER = 3.0 ..
* 283 *
* 284 * WINDOW HEIGHT = 4.0 WIDTH = 2.5 G-T = GTYPE1 ..
* 285 *
* 286 * E-W HEIGHT = 8.0 WIDTH = 7.0 CONS = WALL_CON
* 287 * AZIMUTH = 45 TILT = 0 ..
* 288 *
* 289 *
* 290 * OFFICES =SPACE AREA = 5400.0 VOLUME = 43200.0
* 291 * AZIMUTH = 315 ZONE-TYPE = CONDITIONED
* 292 * PEOPLE-SCHEDULE = PEOPLE_Y NUMBER-OF-PEOPLE = 100.0
* 293 * PEOPLE-HEAT-GAIN = 450.0 PEOPLE-HG-SENS = 1.0
* 294 * LIGHTING-TYPE = REC-FLUOR-RV LIGHTING-W/SQFT = 1.64
* 295 * LIGHTING-SCHEDULE = LIGHT_SCHD
* 296 * EQUIP-SCHEDULE = PEOPLE_Y EQUIPMENT-KW = 5.0
* 297 * EQUIP-SENSIBLE = 0.0 INF-METHOD = AIR-CHANGE
* 298 * AIR-CHANGES/HR = 0.33 INF-SCHEDULE = FULL_ON ..
* 299 *
* 300 * U-W HEIGHT = 90.0 WIDTH = 30.0 CONS = FLOORCON
* 301 * AZIMUTH = 315 ..
* 302 *
* 303 * ROOF HEIGHT = 90.0 WIDTH = 30.0 CONS = ROOF_CON
* 304 * AZIMUTH = 315 TILT = 0 ..
* 305 *
* 306 * E-W HEIGHT = 16.0 WIDTH = 90.0 CONS = WALL_CON
* 307 * AZIMUTH = 225 ..
* 308 *
* 309 * WINDOW HEIGHT = 4.0 WIDTH = 2.5 G-T = GTYPE1
* 310 * MULTIPLIER = 15.0 ..
* 311 *
* 312 * DOOR HEIGHT = 7.5 WIDTH = 3.0 CONS = DOOR_CON ..
* 313 *
* 314 *
* 315 * STORAGE =SPACE AREA = 12920.0 VOLUME = 229330.0
* 316 * AZIMUTH = 315 TEMPERATURE = (65.)
* 317 * ZONE-TYPE = CONDITIONED PEOPLE-SCHEDULE = PEOPLE_Y
* 318 * NUMBER-OF-PEOPLE = 20.0 PEOPLE-HEAT-GAIN = 450.0

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* 319 *      PEOPLE-HG-SENS = 1.0 LIGHTING-TYPE = REC-FLUOR-RV
* 320 *      LIGHTING-W/SQFT = 1.64
* 321 *      LIGHTING-SCHEDULE = LIGHT_SCHD EQUIP-SENSIBLE = 0.0
* 322 *      INF-METHOD = AIR-CHANGE AIR-CHANGES/HR = 0.33
* 323 *      INF-SCHEDULE = FULL_ON ..
* 324 *
* 325 *      U-W      HEIGHT = 148.0 WIDTH = 87.3 CONS = FLOORCON
* 326 *      AZIMUTH = 315 ..
* 327 *
* 328 *      ROOF     HEIGHT = 148.0 WIDTH = 87.3 CONS = ROOF_CON
* 329 *      AZIMUTH = 315 TILT = 0 ..
* 330 *
* 331 *      E-W      HEIGHT = 17.8 WIDTH = 148.0 CONS = WALL_CON
* 332 *      AZIMUTH = 45 ..
* 333 *
* 334 *      DOOR     HEIGHT = 7.5 WIDTH = 3.0 CONS = DOOR_CON
* 335 *      MULTIPLIER = 10.0 ..
* 336 *
* 337 *      DOOR     HEIGHT = 10.0 WIDTH = 8.0 CONS = DOOR_CON
* 338 *      MULTIPLIER = 2.0 ..
* 339 *
* 340 *      WINDOW   HEIGHT = 4.0 WIDTH = 2.5 G-T = GTYPE1 ..
* 341 *
* 342 *      E-W      HEIGHT = 17.8 WIDTH = 87.0 CONS = WALL_CON
* 343 *      AZIMUTH = 315 ..
* 344 *
* 345 *      DOOR     HEIGHT = 7.5 WIDTH = 3.0 CONS = DOOR_CON ..
* 346 *
* 347 *      E-W      HEIGHT = 17.8 WIDTH = 36.0 CONS = WALL_CON
* 348 *      AZIMUTH = 225 ..
* 349 *
* 350 *
* 351 *      AMB_GARAGE =SPACE      AREA = 1814.0 VOLUME = 29028.0
* 352 *      AZIMUTH = 315 ZONE-TYPE = CONDITIONED
* 353 *      PEOPLE-SCHEDULE = PEOPLE_Y NUMBER-OF-PEOPLE = 10.0
* 354 *      PEOPLE-HEAT-GAIN = 500.0 PEOPLE-HG-SENS = 1.0
* 355 *      LIGHTING-TYPE = REC-FLUOR-RV
* 356 *      LIGHTING-SCHEDULE = LIGHT_SCHD
* 357 *      EQUIP-SCHEDULE = FULL_ON EQUIPMENT-KW = 5.6
* 358 *      EQUIP-SENSIBLE = 0.0 INF-METHOD = AIR-CHANGE
* 359 *      AIR-CHANGES/HR = 3.64 INF-SCHEDULE = FULL_ON ..
* 360 *
* 361 *      ROOF     HEIGHT = 61.5 WIDTH = 29.5 CONS = ROOF_CON
* 362 *      AZIMUTH = 315 TILT = 0 ..
* 363 *
* 364 *      U-W      HEIGHT = 61.5 WIDTH = 29.5 CONS = FLOORCON
* 365 *      AZIMUTH = 315 ..
* 366 *
* 367 *      E-W      HEIGHT = 16.0 WIDTH = 62.5 CONS = WALL_CON
* 368 *      AZIMUTH = 45 ..
* 369 *
* 370 *      E-W      HEIGHT = 16.0 WIDTH = 29.5 CONS = WALL_CON
* 371 *      AZIMUTH = 315 ..
* 372 *
* 373 *      DOOR     HEIGHT = 7.5 WIDTH = 3.0 CONS = DOOR_CON ..
* 374 *
* 375 *      E-W      HEIGHT = 16.0 WIDTH = 61.5 CONS = WALL_CON
* 376 *      AZIMUTH = 225 ..
* 377 *
* 378 *      DOOR     HEIGHT = 7.5 WIDTH = 3.0 CONS = DOOR_CON ..
* 379 *
* 380 *      DOOR     HEIGHT = 9.5 WIDTH = 11.0 CONS = DOOR_CON
* 381 *      MULTIPLIER = 5.0 ..
* 382 *
* 383 *
* 384 *      ADDITION =SPACE      AREA = 2080.0 VOLUME = 23920.0
* 385 *      AZIMUTH = 315 ZONE-TYPE = CONDITIONED
* 386 *      PEOPLE-SCHEDULE = PEOPLE_Y NUMBER-OF-PEOPLE = 40.0
* 387 *      PEOPLE-HEAT-GAIN = 450.0 PEOPLE-HG-LAT = 0.2
* 388 *      PEOPLE-HG-SENS = 0.8 LIGHTING-TYPE = REC-FLUOR-RV
* 389 *      LIGHTING-W/SQFT = 1.0 LIGHTING-SCHEDULE = LIGHT_SCHD
* 390 *      EQUIP-SCHEDULE = PEOPLE_Y EQUIPMENT-KW = 15.0
* 391 *      EQUIP-SENSIBLE = 0.3 INF-METHOD = AIR-CHANGE
* 392 *      AIR-CHANGES/HR = 0.33 INF-SCHEDULE = FULL_ON ..
* 393 *
* 394 *      U-W      HEIGHT = 65.0 WIDTH = 32.0 CONS = FLOORCON
* 395 *      AZIMUTH = 315 ..
* 396 *
* 397 *      ROOF     HEIGHT = 65.0 WIDTH = 32.0 CONS = ROOF_CON
* 398 *      AZIMUTH = 315 TILT = 0 ..
* 399 *
* 400 *      WINDOW   HEIGHT = 4.0 WIDTH = 4.0 G-T = GTYPE1
* 401 *      MULTIPLIER = 6.0 ..
* 402 *
* 403 *      DOOR     HEIGHT = 7.5 WIDTH = 3.0 CONS = DOOR_CON ..
* 404 *
* 405 *      E-W      HEIGHT = 8.0 WIDTH = 32.0 CONS = WALL_CON
* 406 *      AZIMUTH = 135 ..
* 407 *
* 408 *      WINDOW   HEIGHT = 4.0 WIDTH = 4.0 G-T = GTYPE1 ..
* 409 *
* 410 *      E-W      HEIGHT = 8.0 WIDTH = 65.0 CONS = WALL_CON
* 411 *      AZIMUTH = 225 ..
* 412 *
* 413 *      E-W      HEIGHT = 8.0 WIDTH = 11.0 CONS = WALL_CON
* 414 *      AZIMUTH = 315 ..
* 415 *
* 416 *
* 417 *      BND ..
* 418 *      COMPUTE LOADS ..
* 419 *
* 420 *      INPUT SYSTEMS ..

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SDL PROCESSOR INPUT DATA

3/19/1995 13:42:24 SDL RUN 1

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$-----$
$ EZ - DOE SYSTEMS INPUT $
$-----$

$ GENERAL PROJECT DATA

* 429 * TITLE LINE-1 * EMC ENGINEERS INC. *
* 430 * LINE-2 *EZDOE - ELITE SOFTWARE DEVELOPMENT INC*
* 431 * LINE-3 * DENVER, CO 80227 *
* 432 *
* 433 * LINE-4 *BUILDING 11050, AMBULATORY HEALTH CARE *
* 434 * LINE-5 *MODEL WITH SETBACK AND DDC * ..
* 435 * ABORT ERRORS ..
* 436 * DIAGNOSTIC WARNINGS ..
* 437 * SYSTEMS-REPORT SUMMARY=(SS-A,SS-B,SS-C,SS-K) ..
* 438 *
* 439 *
* 440 *
$ SCHEDULES

* 441 * FULL_ON_D =DAY-SCHEDULE (1,24) (1.) ..
* 442 * FULL_OFF_D =DAY-SCHEDULE (1,24) (0.) ..
* 443 * COOL75_D =DAY-SCHEDULE (1,24) (78.) ..
* 444 * HEAT70_D =DAY-SCHEDULE (1,24) (68.) ..
* 445 * HEAT65_D =DAY-SCHEDULE (1,24) (65.) ..
* 446 * FAN_WSB_D =DAY-SCHEDULE (1,4) (0.)
* 447 * (5,17) (1.)
* 448 * (18,24) (0.) ..
* 449 * HT70_WSB_D =DAY-SCHEDULE (1,4) (50.)
* 450 * (5,17) (68.)
* 451 * (18,24) (50.) ..
* 452 * CL75_WSB_D =DAY-SCHEDULE (1,4) (85.)
* 453 * (5,17) (78.)
* 454 * (18,24) (85.) ..
* 455 * HEAT_50_D =DAY-SCHEDULE (1,24) (50.) ..
* 456 * COOL_85_D =DAY-SCHEDULE (1,24) (85.) ..
* 457 *
* 458 * FULL_ON_W =WEEK-SCHEDULE (ALL) FULL_ON_D ..
* 459 *
* 460 * FULL_OFF_W =WEEK-SCHEDULE (ALL) FULL_OFF_D ..
* 461 *
* 462 * COOL75_W =WEEK-SCHEDULE (ALL) COOL75_D ..
* 463 *
* 464 * HEAT70_W =WEEK-SCHEDULE (ALL) HEAT70_D ..
* 465 *
* 466 * HEAT65_W =WEEK-SCHEDULE (ALL) HEAT65_D ..
* 467 *
* 468 * FAN_WSB_W =WEEK-SCHEDULE (WD) FAN_WSB_D
* 469 * (SAT) FULL_OFF_D
* 470 * (SUN) FULL_OFF_D
* 471 * (HOL) FAN_WSB_D ..
* 472 *
* 473 * HT70_WSB_W =WEEK-SCHEDULE (WD) HT70_WSB_D
* 474 * (SAT) HEAT_50_D
* 475 * (SUN) HEAT_50_D
* 476 * (HOL) HT70_WSB_D ..
* 477 *
* 478 * CL75_WSB_W =WEEK-SCHEDULE (WD) CL75_WSB_D
* 479 * (SAT) COOL_85_D
* 480 * (SUN) COOL_85_D
* 481 * (HOL) CL75_WSB_D ..
* 482 *
* 483 *
* 484 * $ FULL ON SCHEDULE
* 485 * FULL_ON =SCHEDULE THRU DEC 31 FULL_ON_W ..
* 486 *
* 487 * $ FULL OFF SCHEDULE
* 488 * FULL_OFF =SCHEDULE THRU DEC 31 FULL_OFF_W ..
* 489 *
* 490 * $ HEATING SCHEDULE, 70F
* 491 * HEAT70_SCH =SCHEDULE THRU DEC 31 HEAT70_W ..
* 492 *
* 493 * $ COOLING SCHEDULE, 75F
* 494 * COOL75_SCH =SCHEDULE THRU DEC 31 COOL75_W ..
* 495 *
* 496 * $ GARAGE HEATING SCHEDULE
* 497 * HEAT65 =SCHEDULE THRU DEC 31 HEAT65_W ..
* 498 *
* 499 * $ HEATING HOURS
* 500 * HEAT_HRS =SCHEDULE THRU MAY 15 FULL_ON_W
* 501 * THRU OCT 1 FULL_OFF_W
* 502 * THRU DEC 31 FULL_ON_W ..
* 503 *
* 504 * $ COOLING HOURS AVAIL.
* 505 * COOL_HRS =SCHEDULE THRU MAY 15 FULL_OFF_W
* 506 * THRU OCT 1 FULL_ON_W
* 507 * THRU DEC 31 FULL_OFF_W ..
* 508 *
* 509 * $ FAN SET BACK SCHEDULE
* 510 * FAN_W_SB =SCHEDULE THRU DEC 31 FAN_WSB_W ..
* 511 *
* 512 * $ HEATING SET BACK SCHED
* 513 * HT_70_W_SB =SCHEDULE THRU DEC 31 HT70_WSB_W ..
* 514 *
* 515 * CL_75_W_SB =SCHEDULE THRU DEC 31 CL75_WSB_W ..
* 516 *
* 517 *
* 518 *
* 519 *
* 520 *
$ ZONE DESCRIPTION

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* 521 * CLINIC_SW =ZONE DESIGN-HEAT-T = 70.0 DESIGN-COOL-T = 75.0
* 522 * HEAT-TEMP-SCH = HT 70 W_SB COOL-TEMP-SCH = CL_75_W_SB
* 523 * ZONE-TYPE = CONDITIONED
* 524 * THERMOSTAT-TYPE = PROPORTIONAL THROTTLING-RANGE = 1.0
* 525 * BASEBOARD-CTRL = THERMOSTATIC
* 526 * BASEBOARD-RATING = -47170000. ASSIGNED-CFM = 10130.
* 527 * OUTSIDE-AIR-CFM = 4635. SIZING-OPTION = FROM-LOADS
* 528 * RATED-CFM = 10130.0 MIN-CFM-RATIO = 0.75
* 529 * HEATING-CAPACITY = -487800.0
* 530 * COOLING-CAPACITY = 306220.0 ..
* 531 *
* 532 * CLINIC_NW =ZONE DESIGN-HEAT-T = 70.0 DESIGN-COOL-T = 75.0
* 533 * HEAT-TEMP-SCH = HEAT70 SCH COOL-TEMP-SCH = COOL75_SCH
* 534 * ZONE-TYPE = CONDITIONED
* 535 * THERMOSTAT-TYPE = PROPORTIONAL THROTTLING-RANGE = 1.0
* 536 * BASEBOARD-CTRL = THERMOSTATIC
* 537 * BASEBOARD-RATING = -21716000. ASSIGNED-CFM = 3190.
* 538 * OUTSIDE-AIR-CFM = 800. SIZING-OPTION = FROM-LOADS
* 539 * RATED-CFM = 3190.0 MIN-CFM-RATIO = 0.77
* 540 * HEATING-CAPACITY = -120000.0
* 541 * COOLING-CAPACITY = 96494.0 ..
* 542 *
* 543 * OPER_ROOMS =ZONE DESIGN-HEAT-T = 70.0 DESIGN-COOL-T = 75.0
* 544 * HEAT-TEMP-SCH = HEAT70 SCH COOL-TEMP-SCH = COOL75_SCH
* 545 * ZONE-TYPE = CONDITIONED
* 546 * THERMOSTAT-TYPE = PROPORTIONAL THROTTLING-RANGE = 1.0
* 547 * BASEBOARD-CTRL = THERMOSTATIC ASSIGNED-CFM = 2100.
* 548 * SIZING-OPTION = FROM-LOADS RATED-CFM = 2100.0
* 549 * MIN-CFM-RATIO = 1.0 HEATING-CAPACITY = -176600.0
* 550 * COOLING-CAPACITY = 83927.0 ..
* 551 *
* 552 * CLINIC_N =ZONE DESIGN-HEAT-T = 70.0 DESIGN-COOL-T = 75.0
* 553 * HEAT-TEMP-SCH = HEAT70 SCH COOL-TEMP-SCH = COOL75_SCH
* 554 * ZONE-TYPE = CONDITIONED
* 555 * THERMOSTAT-TYPE = PROPORTIONAL THROTTLING-RANGE = 1.0
* 556 * BASEBOARD-CTRL = THERMOSTATIC ASSIGNED-CFM = 4005.
* 557 * OUTSIDE-AIR-CFM = 1390. SIZING-OPTION = FROM-LOADS
* 558 * RATED-CFM = 4005.0 MIN-CFM-RATIO = 0.87
* 559 * HEATING-CAPACITY = -165300.0
* 560 * COOLING-CAPACITY = 121147.0 ..
* 561 *
* 562 * CLINIC_NE =ZONE DESIGN-HEAT-T = 70.0 DESIGN-COOL-T = 75.0
* 563 * HEAT-TEMP-SCH = HT 70 W_SB COOL-TEMP-SCH = CL_75_W_SB
* 564 * ZONE-TYPE = CONDITIONED
* 565 * THERMOSTAT-TYPE = PROPORTIONAL THROTTLING-RANGE = 1.0
* 566 * BASEBOARD-CTRL = THERMOSTATIC
* 567 * BASEBOARD-RATING = -15469200. ASSIGNED-CFM = 9915.
* 568 * OUTSIDE-AIR-CFM = 3720. SIZING-OPTION = FROM-LOADS
* 569 * RATED-CFM = 9915.0 MIN-CFM-RATIO = 0.38
* 570 * HEATING-CAPACITY = -383300.0
* 571 * COOLING-CAPACITY = 299920.0 ..
* 572 *
* 573 * CLINIC_S =ZONE DESIGN-HEAT-T = 70.0 DESIGN-COOL-T = 75.0
* 574 * HEAT-TEMP-SCH = HT 70 W_SB COOL-TEMP-SCH = CL_75_W_SB
* 575 * ZONE-TYPE = CONDITIONED
* 576 * THERMOSTAT-TYPE = PROPORTIONAL THROTTLING-RANGE = 1.0
* 577 * BASEBOARD-CTRL = THERMOSTATIC
* 578 * BASEBOARD-RATING = -66175000. ASSIGNED-CFM = 13685.
* 579 * OUTSIDE-AIR-CFM = 3420. SIZING-OPTION = FROM-LOADS
* 580 * RATED-CFM = 13685.0 MIN-CFM-RATIO = 0.81
* 581 * EXHAUST-CFM = 3420.0 HEATING-CAPACITY = -586000.0
* 582 * COOLING-CAPACITY = 413960.0 ..
* 583 *
* 584 * OFFICES =ZONE DESIGN-HEAT-T = 70.0 DESIGN-COOL-T = 80.0
* 585 * HEAT-TEMP-SCH = HT 70 W_SB ZONE-TYPE = CONDITIONED
* 586 * THERMOSTAT-TYPE = PROPORTIONAL THROTTLING-RANGE = 1.0
* 587 * BASEBOARD-CTRL = THERMOSTATIC ASSIGNED-CFM = 5000.
* 588 * OUTSIDE-AIR-CFM = 450. SIZING-OPTION = FROM-LOADS
* 589 * RATED-CFM = 5000.0 MIN-CFM-RATIO = 1.0
* 590 * HEATING-CAPACITY = -185000.0 ..
* 591 *
* 592 * STORAGE =ZONE DESIGN-HEAT-T = 65.0 DESIGN-COOL-T = 80.0
* 593 * HEAT-TEMP-SCH = HEAT65 ZONE-TYPE = CONDITIONED
* 594 * THERMOSTAT-TYPE = PROPORTIONAL THROTTLING-RANGE = 1.0
* 595 * BASEBOARD-CTRL = THERMOSTATIC
* 596 * BASEBOARD-RATING = -62800. ASSIGNED-CFM = 9000.
* 597 * OUTSIDE-AIR-CFM = 810. SIZING-OPTION = FROM-LOADS
* 598 * RATED-CFM = 9000.0 MIN-CFM-RATIO = 1.0
* 599 * HEATING-CAPACITY = -11700.0 ..
* 600 *
* 601 * AMB_GARAGE =ZONE DESIGN-HEAT-T = 65.0 DESIGN-COOL-T = 90.0
* 602 * HEAT-TEMP-SCH = HEAT65 ZONE-TYPE = CONDITIONED
* 603 * THERMOSTAT-TYPE = PROPORTIONAL THROTTLING-RANGE = 1.0
* 604 * BASEBOARD-CTRL = THERMOSTATIC ASSIGNED-CFM = 1746.
* 605 * SIZING-OPTION = FROM-LOADS RATED-CFM = 1746.0
* 606 * MIN-CFM-RATIO = 1.0 ..
* 607 *
* 608 * ADDITION =ZONE DESIGN-HEAT-T = 70.0 DESIGN-COOL-T = 75.0
* 609 * HEAT-TEMP-SCH = HT 70 W_SB COOL-TEMP-SCH = CL_75_W_SB
* 610 * ZONE-TYPE = CONDITIONED
* 611 * THERMOSTAT-TYPE = PROPORTIONAL THROTTLING-RANGE = 1.0
* 612 * BASEBOARD-CTRL = THERMOSTATIC ASSIGNED-CFM = 3400.
* 613 * OUTSIDE-AIR-CFM = 510. SIZING-OPTION = FROM-LOADS
* 614 * RATED-CFM = 3400.0 MIN-CFM-RATIO = 1.0
* 615 * EXHAUST-CFM = 510.0 HEATING-CAPACITY = -142200.0
* 616 * COOLING-CAPACITY = 102000.0 ..
* 617 *
* 618 *
* 619 * $ SYSTEM DESCRIPTION
* 620 *
* 621 * AHU_1 =SYSTEM SYSTEM-TYPE = VAVS
* 622 * MAX-SUPPLY-T = 135.0 MIN-SUPPLY-T = 65.0
* 623 * HEATING-SCHEDULE = FULL_ON
* 624 * COOLING-SCHEDULE = FULL_ON PREHEAT-T = 54.5
* 625 * MIN-HUMIDITY = 30.0 ECONO-LIMIT-T = 65.0
* 626 * ECONO-LOW-LIMIT = 55.0 SUPPLY-CFM = 10130.
* 627 * RETURN-CFM = 6483. RATED-CFM = 10130.
* 628 * MIN-OUTSIDE-AIR = 0.46 FAN-SCHEDULE = FAN_W_SB

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* 629 *      SUPPLY-DELTA-T = 3.4  SUPPLY-KW = 0.00084
* 630 *      NIGHT-CYCLE-CTRL = STAY-OFF  RETURN-STATIC = 1.0
* 631 *      RETURN-EFF = 0.97  NIGHT-VENT-DT = 0.0
* 632 *      MIN-CFM-RATIO = 0.75  REHEAT-DELTA-T = 20.5
* 633 *      COOLING-CAPACITY = 306422.
* 634 *      HEATING-CAPACITY = -487800.  FURNACE-AUX = 0.
* 635 *      PREHEAT-SOURCE = HOT-WATER
* 636 *      SIZING-OPTION = COINCIDENT  RETURN-AIR-PATH = DIRECT
* 637 *      ZONE-NAMES = (CLINIC_SW) ..
* 638 *
* 639 * AHU_2      =SYSTEM  SYSTEM-TYPE = VAVS
* 640 *      MAX-SUPPLY-T = 135.0  MIN-SUPPLY-T = 65.0
* 641 *      HEATING-SCHEDULE = FULL_ON
* 642 *      COOLING-SCHEDULE = FULL_ON  PREHEAT-T = 63.3
* 643 *      MIN-HUMIDITY = 30.0  ECONO-LIMIT-T = 65.0
* 644 *      ECONO-LOW-LIMIT = 55.0  SUPPLY-CFM = 3190.
* 645 *      RETURN-CFM = 2329.  RATED-CFM = 3190.
* 646 *      MIN-OUTSIDE-AIR = 0.27  SUPPLY-DELTA-T = 3.4
* 647 *      SUPPLY-KW = 0.00089
* 648 *      MOTOR-PLACEMENT = OUTSIDE-AIRFLOW
* 649 *      NIGHT-CYCLE-CTRL = STAY-OFF  RETURN-STATIC = 0.9
* 650 *      RETURN-EFF = 0.97  NIGHT-VENT-DT = 0.0
* 651 *      MIN-CFM-RATIO = 0.77  REHEAT-DELTA-T = 6.7
* 652 *      COOLING-CAPACITY = 96494.
* 653 *      HEATING-CAPACITY = -120000.  FURNACE-AUX = 0.
* 654 *      PREHEAT-SOURCE = HOT-WATER
* 655 *      SIZING-OPTION = COINCIDENT  RETURN-AIR-PATH = DIRECT
* 656 *      ZONE-NAMES = (CLINIC_NW) ..
* 657 *
* 658 * AHU_3      =SYSTEM  SYSTEM-TYPE = VAVS
* 659 *      MAX-SUPPLY-T = 135.0  MIN-SUPPLY-T = 65.0
* 660 *      HEATING-SCHEDULE = FULL_ON
* 661 *      COOLING-SCHEDULE = FULL_ON  PREHEAT-T = 49.0
* 662 *      MIN-HUMIDITY = 30.0  ECONO-LIMIT-T = 65.0
* 663 *      ECONO-LOW-LIMIT = 55.0  SUPPLY-CFM = 2100.
* 664 *      RATED-CFM = 2100.  MIN-OUTSIDE-AIR = 1.0
* 665 *      RECOVERY-EFF = 0.41  SUPPLY-DELTA-T = 3.4
* 666 *      SUPPLY-KW = 0.00107
* 667 *      MOTOR-PLACEMENT = OUTSIDE-AIRFLOW
* 668 *      NIGHT-CYCLE-CTRL = STAY-OFF  RETURN-STATIC = 2.0
* 669 *      RETURN-EFF = 0.97  NIGHT-VENT-DT = 0.0
* 670 *      MIN-CFM-RATIO = 0.76  REHEAT-DELTA-T = 26.
* 671 *      COOLING-CAPACITY = 83927.
* 672 *      HEATING-CAPACITY = -176600.  FURNACE-AUX = 0.
* 673 *      PREHEAT-SOURCE = HOT-WATER
* 674 *      SIZING-OPTION = COINCIDENT  RETURN-AIR-PATH = DIRECT
* 675 *      ZONE-NAMES = (OPER_ROOMS) ..
* 676 *
* 677 * AHU_4      =SYSTEM  SYSTEM-TYPE = VAVS
* 678 *      MAX-SUPPLY-T = 135.0  MIN-SUPPLY-T = 65.0
* 679 *      HEATING-SCHEDULE = FULL_ON
* 680 *      COOLING-SCHEDULE = FULL_ON  PREHEAT-T = 55.8
* 681 *      MIN-HUMIDITY = 30.0  ECONO-LIMIT-T = 65.0
* 682 *      ECONO-LOW-LIMIT = 55.0  SUPPLY-CFM = 4005.
* 683 *      RETURN-CFM = 2523.  RATED-CFM = 4005.
* 684 *      MIN-OUTSIDE-AIR = 0.37  SUPPLY-DELTA-T = 3.4
* 685 *      SUPPLY-KW = 0.00078  NIGHT-CYCLE-CTRL = STAY-OFF
* 686 *      RETURN-STATIC = 0.7  RETURN-EFF = 0.97
* 687 *      NIGHT-VENT-DT = 0.0  MIN-CFM-RATIO = 0.87
* 688 *      REHEAT-DELTA-T = 14.2  COOLING-CAPACITY = 121147.
* 689 *      HEATING-CAPACITY = -165300.  FURNACE-AUX = 0.
* 690 *      PREHEAT-SOURCE = HOT-WATER
* 691 *      SIZING-OPTION = COINCIDENT  RETURN-AIR-PATH = DIRECT
* 692 *      ZONE-NAMES = (CLINIC_N) ..
* 693 *
* 694 * AHU_5      =SYSTEM  SYSTEM-TYPE = VAVS
* 695 *      MAX-SUPPLY-T = 135.0  MIN-SUPPLY-T = 65.0
* 696 *      HEATING-SCHEDULE = FULL_ON
* 697 *      COOLING-SCHEDULE = FULL_ON  PREHEAT-T = 58.8
* 698 *      MIN-HUMIDITY = 30.0  ECONO-LIMIT-T = 65.0
* 699 *      ECONO-LOW-LIMIT = 55.0  SUPPLY-CFM = 9915.
* 700 *      RETURN-CFM = 7436.  RATED-CFM = 9915.
* 701 *      MIN-OUTSIDE-AIR = 0.25  FAN-SCHEDULE = FAN_W_SB
* 702 *      SUPPLY-DELTA-T = 3.4  SUPPLY-KW = 0.00055
* 703 *      MOTOR-PLACEMENT = OUTSIDE-AIRFLOW
* 704 *      NIGHT-CYCLE-CTRL = STAY-OFF  RETURN-STATIC = 1.0
* 705 *      RETURN-EFF = 0.97  NIGHT-VENT-DT = 0.0
* 706 *      MIN-CFM-RATIO = 0.76  REHEAT-DELTA-T = 11.2
* 707 *      COOLING-CAPACITY = 299920.
* 708 *      HEATING-CAPACITY = -383300.  FURNACE-AUX = 0.
* 709 *      PREHEAT-SOURCE = HOT-WATER
* 710 *      SIZING-OPTION = COINCIDENT  RETURN-AIR-PATH = DIRECT
* 711 *      ZONE-NAMES = (CLINIC_NE) ..
* 712 *
* 713 * AHU_6      =SYSTEM  SYSTEM-TYPE = VAVS
* 714 *      MAX-SUPPLY-T = 135.0  MIN-SUPPLY-T = 65.0
* 715 *      HEATING-SCHEDULE = FULL_ON
* 716 *      COOLING-SCHEDULE = FULL_ON  PREHEAT-T = 60.0
* 717 *      MIN-HUMIDITY = 30.0  ECONO-LIMIT-T = 65.0
* 718 *      ECONO-LOW-LIMIT = 55.0  SUPPLY-CFM = 13685.
* 719 *      RETURN-CFM = 3421.  RATED-CFM = 13685.
* 720 *      MIN-OUTSIDE-AIR = 0.25  FAN-SCHEDULE = FAN_W_SB
* 721 *      SUPPLY-DELTA-T = 3.4  SUPPLY-KW = 0.00053
* 722 *      MOTOR-PLACEMENT = OUTSIDE-AIRFLOW
* 723 *      NIGHT-CYCLE-CTRL = STAY-OFF  RETURN-STATIC = 1.1
* 724 *      RETURN-EFF = 0.97  NIGHT-VENT-DT = 0.0
* 725 *      MIN-CFM-RATIO = 0.81  REHEAT-DELTA-T = 15.
* 726 *      COOLING-CAPACITY = 413960.
* 727 *      HEATING-CAPACITY = -189941.  FURNACE-AUX = 0.
* 728 *      PREHEAT-SOURCE = HOT-WATER
* 729 *      SIZING-OPTION = COINCIDENT  RETURN-AIR-PATH = DIRECT
* 730 *      ZONE-NAMES = (CLINIC_S) ..
* 731 *
* 732 * AHU_1X     =SYSTEM  SYSTEM-TYPE = HVSYS
* 733 *      MAX-SUPPLY-T = 135.0  HEATING-SCHEDULE = FULL_ON
* 734 *      MIN-HUMIDITY = 30.0  ECONO-LIMIT-T = 65.0
* 735 *      ECONO-LOW-LIMIT = 55.0  SUPPLY-CFM = 5000.
* 736 *      RETURN-CFM = 4573.  RATED-CFM = 5000.

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* 737 *      MIN-OUTSIDE-AIR = 0.09  FAN-SCHEDULE = FAN_W_SB
* 738 *      SUPPLY-DELTA-T = 2.4  SUPPLY-KW = 0.0006
* 739 *      MOTOR-PLACEMENT = OUTSIDE-AIRFLOW
* 740 *      NIGHT-CYCLE-CTRL = STAY-OFF  NIGHT-VENT-DT = 0.0
* 741 *      HEATING-CAPACITY = -185000.  FURNACE-AUX = 0.
* 742 *      ZONE-NAMES = (OFFICES) ..
* 743 *
* 744 * AHU_2X      =SYSTEM  SYSTEM-TYPE = HVSYS
* 745 *      MAX-SUPPLY-T = 135.0  HEATING-SCHEDULE = FULL_ON
* 746 *      MIN-HUMIDITY = 30.0  ECONO-LIMIT-T = 65.0
* 747 *      ECONO-LOW-LIMIT = 55.0  SUPPLY-CFM = 9000.
* 748 *      RETURN-CFM = 8190.  RATED-CFM = 9000.
* 749 *      MIN-OUTSIDE-AIR = 0.09  FAN-SCHEDULE = FAN_W_SB
* 750 *      SUPPLY-DELTA-T = 2.4  SUPPLY-KW = 0.00059
* 751 *      MOTOR-PLACEMENT = OUTSIDE-AIRFLOW
* 752 *      NIGHT-CYCLE-CTRL = STAY-OFF  NIGHT-VENT-DT = 0.0
* 753 *      HEATING-CAPACITY = -198800.  FURNACE-AUX = 0.
* 754 *      ZONE-NAMES = (STORAGE) ..
* 755 *
* 756 * GARAGE_UH    =SYSTEM  SYSTEM-TYPE = UHT
* 757 *      MAX-SUPPLY-T = 135.0  HEATING-SCHEDULE = FULL_ON
* 758 *      RATED-CFM = 1746.  SUPPLY-DELTA-T = 0.18
* 759 *      SUPPLY-KW = 0.000059
* 760 *      NIGHT-CYCLE-CTRL = CYCLE-ON-ANY
* 761 *      HEATING-CAPACITY = -100000.  FURNACE-AUX = 0.
* 762 *      ZONE-NAMES = (AMB_GARAGE) ..
* 763 *
* 764 * ADDIT_AHU    =SYSTEM  SYSTEM-TYPE = PTAC
* 765 *      MAX-SUPPLY-T = 135.0  MIN-SUPPLY-T = 45.0
* 766 *      HEATING-SCHEDULE = FULL_ON
* 767 *      COOLING-SCHEDULE = FULL_ON  SUPPLY-CFM = 3400.
* 768 *      RATED-CFM = 3400.  MIN-OUTSIDE-AIR = 0.1
* 769 *      FAN-SCHEDULE = FAN_W_SB
* 770 *      FAN-CONTROL = CONSTANT-VOLUME  SUPPLY-DELTA-T = 0.2
* 771 *      SUPPLY-KW = 0.00007  NIGHT-CYCLE-CTRL = STAY-OFF
* 772 *      NIGHT-VENT-DT = 0.0  COOLING-CAPACITY = 102000.
* 773 *      COOL-FR-MIN = 0.  HEATING-CAPACITY = -142200.
* 774 *      MIN-HP-T = 0.  HP-SUPP-SOURCE = HOT-WATER
* 775 *      FURNACE-AUX = 0.  HEAT-SOURCE = GAS-FURNACE
* 776 *      ZONE-NAMES = (ADDITION) ..
* 777 *
* 778 * END ..
* 779 * COMPUTE SYSTEMS ..
* 780 *
* 781 * INPUT PLANT ..

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PDL PROCESSOR INPUT DATA

3/19/1995 13:42:24 PDL RUN 1

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* 782 *
* 783 *
* 784 *      $-----$
* 785 *      $EZ - DOE PLANTS INPUT$
* 786 *      $-----$
* 787 *
* 788 *      $ GENERAL PROJECT DATA
* 789 *
* 790 * TITLE LINE-1 * EMC ENGINEERS INC. *
* 791 * LINE-2 *EZDOE - ELITE SOFTWARE DEVELOPMENT INC*
* 792 * LINE-3 * DENVER, CO 80227 *
* 793 *
* 794 * LINE-4 *BUILDING 11050, AMBULATORY HEALTH CARE *
* 795 * LINE-5 *MODEL WITH SETBACK AND DDC * ..
* 796 *
* 797 * ABORT ERRORS ..
* 798 * DIAGNOSTIC WARNINGS ..
* 799 * PLANT-REPORT SUMMARY=(PS-A,PS-B,BEPS)
* 800 * ..
* 801 *
* 802 *      $ SCHEDULES
* 803 *
* 804 * HX_D =DAY-SCHEDULE (1,24) (1.) ..
* 805 *
* 806 *
* 807 * HX_W =WEEK-SCHEDULE (ALL) HX_D ..
* 808 *
* 809 *
* 810 * $ HEAT EXCHGER SCHEDULE
* 811 * HX_SCHD =SCHEDULE THRU DEC 31 HX_W ..
* 812 *
* 813 *
* 814 *
* 815 *      $ EQUIPMENT DESCRIPTION
* 816 *
* 817 * HX1A&B&X =PLANT-EQUIPMENT TYPE = HTANK-STORAGE
* 818 * SIZE = 2.6 ..
* 819 *
* 820 * ACCUS =PLANT-EQUIPMENT TYPE = OPEN-REC-CHLR
* 821 * SIZE = 0.5 INSTALLED-NUMBER = 6
* 822 * MAX-NUMBER-AVAIL = 6 ..
* 823 *
* 824 * PLANT-PARAMETERS MAKEUP-WTR-T = 160. OPEN-REC-COND-TYPE = AIR
* 825 * OPEN-CENT-COND-PWR = 0.15 OPEN-REC-COND-PWR = 0.15
* 826 * OPEN-REC-UNL-RAT = 0.1 ..
* 827 *
* 828 *
* 829 * ENERGY-RESOURCE RESOURCE = ELECTRICITY ..
* 830 * ENERGY-RESOURCE RESOURCE = STEAM SOURCE-SITE-EFF = 1.000 ..
* 831 * ENERGY-RESOURCE RESOURCE = FUEL-OIL ..
* 832 * ENERGY-RESOURCE RESOURCE = NATURAL-GAS ..
* 833 *
* 834 * ENERGY-STORAGE HEAT-STORE-RATE = 10.0 HEAT-SUPPLY-RATE = 10.0
* 835 * HTANK-BASE-T = 195.0 HTANK-T-RANGE = 5.0
* 836 * HEAT-STORE-SCH = HX_SCHD ..
* 837 *
* 838 * HEAT-RECOVERY
* 839 * SUPPLY-1 = (HTANK-STORAGE)
* 840 * DEMAND-1 = (SPACE-HEAT) ..
* 841 *
* 842 *
* 843 *
* 844 * END ..
* 845 * COMPUTE PLANT ..
* 846 * STOP ..

```

ENERGY TYPE IN SITE MBTU-	STEAM	ELECTRICITY	NATURAL-GAS
CATEGORY OF USE			
SPACE HEAT	3,346.49	0.00	82.03
SPACE COOL	0.00	548.26	0.00
HVAC AUX	0.00	724.89	0.00
DOM HOT WTR	746.04	0.00	0.00
AUX SOLAR	0.00	0.00	0.00
LIGHTS	0.00	1,546.75	0.00
VERT TRANS	0.00	0.00	0.00
MISC EQUIP	0.00	2,491.88	0.00
	-----	-----	-----
TOTAL	4,092.52	5,311.78	82.03

TOTAL SITE ENERGY 9486.39 MBTU 123.4 KBTU/SQFT-YR GROSS-AREA 123.4 KBTU/SQFT-YR NET-AREA  
 TOTAL SOURCE ENERGY 20126.06 MBTU 261.9 KBTU/SQFT-YR GROSS-AREA 261.9 KBTU/SQFT-YR NET-AREA

PERCENT OF HOURS ANY SYSTEM ZONE OUTSIDE OF THROTTLING RANGE = 43.8  
 PERCENT OF HOURS ANY PLANT LOAD NOT SATISFIED = 0.0

NOTE ELECTRICITY AND/OR FUEL USED TO GENERATE ELECTRICITY IS APPORTIONED BASED  
 ON THE YEARLY DEMAND. ALL OTHER ENERGY TYPES ARE APPORTIONED HOURLY.

EMC ENGINEERS INC. EZDOE - ELITE SOFTWARE DEVELOPMENT INC DOE-2.1D 3/19/1995 13:42:24 PDL RUN 1  
DENVER, CO 80227 BUILDING 11050, AMBULATORY HEALTH CARE MODEL WITH SETBACK AND DDC  
REPORT- PS-B MONTHLY PEAK AND TOTAL ENERGY USE WEATHER FILE- MASSENA, NY

MO	UTILITY-	STEAM	ELECTRICITY	NATURAL-GAS
	TOTAL (MBTU)	808.899	426.363	23.454
JAN	PEAK (KBTU)	3848.999	905.584	178.853
	DY/HR	24/ 5	17/ 9	24/ 6
	TOTAL (MBTU)	610.206	386.146	15.855
FEB	PEAK (KBTU)	3352.180	905.370	151.871
	DY/HR	14/ 5	3/ 9	14/ 5
	TOTAL (MBTU)	618.349	428.666	14.512
MAR	PEAK (KBTU)	3147.373	905.460	130.843
	DY/HR	28/ 5	30/ 9	28/ 5
	TOTAL (MBTU)	334.334	418.480	3.629
APR	PEAK (KBTU)	2064.698	984.438	89.455
	DY/HR	1/ 5	15/12	1/ 5
	TOTAL (MBTU)	196.878	449.901	0.587
MAY	PEAK (KBTU)	1449.214	1094.659	54.226
	DY/HR	3/ 5	31/15	4/ 5
	TOTAL (MBTU)	85.287	465.065	0.000
JUN	PEAK (KBTU)	422.950	1193.198	0.000
	DY/HR	8/ 5	17/12	30/ 1
	TOTAL (MBTU)	77.911	508.867	0.000
JUL	PEAK (KBTU)	299.548	1473.691	0.000
	DY/HR	25/ 5	18/12	31/ 1
	TOTAL (MBTU)	83.257	490.873	0.000
AUG	PEAK (KBTU)	345.913	1204.622	0.000
	DY/HR	22/ 5	8/12	31/ 1
	TOTAL (MBTU)	106.190	455.385	0.000
SEP	PEAK (KBTU)	679.183	1399.140	0.000
	DY/HR	23/ 5	5/10	30/ 1
	TOTAL (MBTU)	202.806	437.089	1.522
OCT	PEAK (KBTU)	1256.913	1004.343	60.114
	DY/HR	28/ 5	10/ 9	28/ 5
	TOTAL (MBTU)	365.667	417.086	7.046
NOV	PEAK (KBTU)	2407.060	1017.016	109.876
	DY/HR	28/ 5	1/ 9	28/ 5
	TOTAL (MBTU)	602.714	427.941	15.419
DEC	PEAK (KBTU)	2833.303	935.476	139.124
	DY/HR	26/ 5	9/12	26/ 5
	ONE YEAR	4092.497	5311.862	82.025
	USE/PEAK	3848.999	1473.691	178.853

**COMPUTER SIMULATIONS**  
**BUILDING 11050**

**RUN 4 - FORCED VENTILATION**



# LDL PROCESSOR INPUT DATA

3/22/1995 9:23: 5 LDL RUN 1

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* 3 *
* 4 *
* 5 *
* 6 *
* 7 *
* 8 *
* 9 *
* 10 *
* 11 * TITLE LINE-1 * EMC ENGINEERS INC. *
* 12 * LINE-2 *EZDOE - ELITE SOFTWARE DEVELOPMENT INC*
* 13 * LINE-3 * DENVER, CO 80227 *
* 14 *
* 15 * LINE-4 *BUILDING 11050, AMBULATORY HEALTH CARE *
* 16 * LINE-5 *MODEL WITH SETBACK, DDC, AND FORCED VENT* ..
* 17 *
* 18 * ABORT ERRORS ..
* 19 * DIAGNOSTIC WARNINGS ..
* 20 * LOADS-REPORT SUMMARY=(LS-C,LS-D) ..
* 21 * BUILDING-LOCATION X-REF = 0.0
* 22 * Y-REF = 0.0 ..
* 23 * RUN-PERIOD JAN 1 1994 THRU DEC 31 1994 ..
* 24 *
* 25 *
* 26 * $ SCHEDULES
* 27 *
* 28 * FULL_ON_D =DAY-SCHEDULE (1,24) (1.) ..
* 29 *
* 30 * FULL_OFF_D =DAY-SCHEDULE (1,24) (0.) ..
* 31 *
* 32 * PEOPLE_D =DAY-SCHEDULE (1,5) (0.)
* 33 * (6,7) (0.5)
* 34 * (8,9) (0.6,0.9)
* 35 * (10,12) (1.)
* 36 * (13,18) (0.9)
* 37 * (19,20) (1.)
* 38 * (21) (0.3)
* 39 * (22,24) (0.) ..
* 40 *
* 41 * LIGHT_ON_D =DAY-SCHEDULE (1,5) (0.1)
* 42 * (6,10) (0.2,0.6,0.7,0.8,0.6)
* 43 * (11) (0.4)
* 44 * (12,13) (0.6)
* 45 * (14,17) (0.5)
* 46 * (18,19) (0.7)
* 47 * (20,22) (0.8,0.5,0.3)
* 48 * (23,24) (0.1) ..
* 49 *
* 50 * STRLZR_D =DAY-SCHEDULE (1,6) (0.)
* 51 * (7) (1.)
* 52 * (8,24) (0.) ..
* 53 *
* 54 *
* 55 * FULL_ON_W =WEEK-SCHEDULE (ALL) FULL_ON_D ..
* 56 *
* 57 * FULL_OFF_W =WEEK-SCHEDULE (ALL) FULL_OFF_D ..
* 58 *
* 59 * PEOPLE_W =WEEK-SCHEDULE (ALL) PEOPLE_D ..
* 60 *
* 61 * LIGHT_ON_W =WEEK-SCHEDULE (ALL) LIGHT_ON_D ..
* 62 *
* 63 * STRLZER_W =WEEK-SCHEDULE (ALL) STRLZR_D ..
* 64 *
* 65 *
* 66 * $ FULL ON SCHEDULE
* 67 * FULL_ON =SCHEDULE THRU DEC 31 FULL_ON_W ..
* 68 *
* 69 * $ FULL OFF SCHEDULE
* 70 * FULL_OFF =SCHEDULE THRU DEC 31 FULL_OFF_W ..
* 71 *
* 72 * $ OCCUPANCY SCHEDULE
* 73 * PEOPLE_Y =SCHEDULE THRU DEC 31 PEOPLE_W ..
* 74 *
* 75 * $ LIGHTING SCHEDULE
* 76 * LIGHT_SCHD =SCHEDULE THRU DEC 31 LIGHT_ON_W ..
* 77 *
* 78 * $ STERILIZER SCHEDULE
* 79 * STRLZR_Y =SCHEDULE THRU DEC 31 STRLZER_W ..
* 80 *
* 81 *
* 82 *
* 83 * $ CONSTRUCTION TYPES
* 84 *
* 85 *
* 86 *
* 87 * FLOORCON =CONSTRUCTION U-VALUE = 0.100 ..
* 88 * ROOF_CON =CONSTRUCTION U-VALUE = 0.030 ..
* 89 * WALL_CON =CONSTRUCTION U-VALUE = 0.140 ..
* 90 * DOOR_CON =CONSTRUCTION U-VALUE = 1.000 ..
* 91 *
* 92 * GTYPE1 =GLASS-TYPE GLASS-TYPE-CODE = 1
* 93 * PANES = 1
* 94 * GLASS-CONDUCTANCE = 1.130 ..
* 95 *
* 96 *
* 97 *
* 98 *
* 99 * $ SPACE DESCRIPTION
* 100 *
* 101 * CLINIC_SW =SPACE AREA = 8284.0 VOLUME = 66272.0
* 102 * AZIMUTH = 315 TEMPERATURE = (72.5)

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* 103 *      ZONE-TYPE = CONDITIONED  PEOPLE-SCHEDULE = PEOPLE_Y
* 104 *      NUMBER-OF-PEOPLE = 100.0  PEOPLE-HEAT-GAIN = 450.0
* 105 *      PEOPLE-HG-SENS = 1.0  LIGHTING-TYPE = REC-FLUOR-RV
* 106 *      LIGHTING-W/SQFT = 1.64
* 107 *      LIGHTING-SCHEDULE = LIGHT_SCHD
* 108 *      EQUIP-SCHEDULE = PEOPLE_Y  EQUIPMENT-KW = 20.0
* 109 *      EQUIP-SENSIBLE = 0.3  SOURCE-SCHEDULE = FULL_ON
* 110 *      SOURCE-TYPE = HOT-WATER  SOURCE-BTU/HR = 85160.0
* 111 *      SOURCE-SENSIBLE = 0.1  SOURCE-LATENT = 0.05
* 112 *      INF-METHOD = AIR-CHANGE  AIR-CHANGES/HR = 0.33
* 113 *      INF-SCHEDULE = FULL_ON  ..
* 114 *
* 115 *      U-W      HEIGHT = 148.5  WIDTH = 55.8  CONS = FLOORCON
* 116 *      AZIMUTH = 315  ..
* 117 *
* 118 *      ROOF      HEIGHT = 148.5  WIDTH = 55.8  CONS = ROOF_CON
* 119 *      AZIMUTH = 315  TILT = 0  ..
* 120 *
* 121 *      E-W      HEIGHT = 8.0  WIDTH = 11.0  CONS = WALL_CON
* 122 *      AZIMUTH = 135  ..
* 123 *
* 124 *      E-W      HEIGHT = 8.0  WIDTH = 148.5  CONS = WALL_CON
* 125 *      AZIMUTH = 225  ..
* 126 *
* 127 *      DOOR      HEIGHT = 7.5  WIDTH = 3.0  CONS = DOOR_CON
* 128 *      MULTIPLIER = 3.0  ..
* 129 *
* 130 *      WINDOW      HEIGHT = 4.0  WIDTH = 2.5  G-T = GTYPE1
* 131 *      MULTIPLIER = 3.0  ..
* 132 *
* 133 *      WINDOW      HEIGHT = 4.0  WIDTH = 2.5  G-T = GTYPE1
* 134 *      MULTIPLIER = 23.0  ..
* 135 *
* 136 *      E-W      HEIGHT = 8.0  WIDTH = 3.0  CONS = WALL_CON
* 137 *      AZIMUTH = 315  ..
* 138 *
* 139 *
* 140 *      CLINIC_NW  =SPACE  AREA = 3048.0  VOLUME = 24384.0
* 141 *      AZIMUTH = 315  TEMPERATURE = (72.5)
* 142 *      ZONE-TYPE = CONDITIONED  PEOPLE-SCHEDULE = PEOPLE_Y
* 143 *      NUMBER-OF-PEOPLE = 100.0  PEOPLE-HEAT-GAIN = 450.0
* 144 *      PEOPLE-HG-SENS = 1.0  LIGHTING-TYPE = REC-FLUOR-RV
* 145 *      LIGHTING-W/SQFT = 1.64
* 146 *      LIGHTING-SCHEDULE = LIGHT_SCHD
* 147 *      EQUIP-SCHEDULE = FULL_ON  EQUIPMENT-KW = 20.0
* 148 *      EQUIP-SENSIBLE = 0.3  INF-METHOD = AIR-CHANGE
* 149 *      AIR-CHANGES/HR = 0.33  INF-SCHEDULE = FULL_ON  ..
* 150 *
* 151 *      U-W      HEIGHT = 84.0  WIDTH = 36.3  CONS = FLOORCON
* 152 *      AZIMUTH = 315  ..
* 153 *
* 154 *      ROOF      HEIGHT = 84.0  WIDTH = 36.3  CONS = ROOF_CON
* 155 *      AZIMUTH = 315  TILT = 0  ..
* 156 *
* 157 *      E-W      HEIGHT = 8.0  WIDTH = 104.0  CONS = WALL_CON
* 158 *      AZIMUTH = 225  ..
* 159 *
* 160 *      DOOR      HEIGHT = 7.5  WIDTH = 3.0  CONS = DOOR_CON
* 161 *      MULTIPLIER = 2.0  ..
* 162 *
* 163 *      WINDOW      HEIGHT = 4.0  WIDTH = 2.5  G-T = GTYPE1
* 164 *      MULTIPLIER = 12.0  ..
* 165 *
* 166 *      E-W      HEIGHT = 8.0  WIDTH = 5.0  CONS = WALL_CON
* 167 *      AZIMUTH = 135  ..
* 168 *
* 169 *      E-W      HEIGHT = 8.0  WIDTH = 55.5  CONS = WALL_CON
* 170 *      AZIMUTH = 315  ..
* 171 *
* 172 *      DOOR      HEIGHT = 7.5  WIDTH = 3.0  CONS = DOOR_CON
* 173 *      MULTIPLIER = 2.0  ..
* 174 *
* 175 *
* 176 *      OPER_ROOMS  =SPACE  AREA = 880.0  VOLUME = 7040.0
* 177 *      AZIMUTH = 315  TEMPERATURE = (72.5)
* 178 *      ZONE-TYPE = CONDITIONED  PEOPLE-SCHEDULE = PEOPLE_Y
* 179 *      NUMBER-OF-PEOPLE = 20.0  PEOPLE-HEAT-GAIN = 450.0
* 180 *      PEOPLE-HG-SENS = 1.0  LIGHTING-TYPE = REC-FLUOR-RV
* 181 *      LIGHTING-W/SQFT = 1.64
* 182 *      LIGHTING-SCHEDULE = LIGHT_SCHD
* 183 *      EQUIP-SCHEDULE = PEOPLE_Y  EQUIPMENT-KW = 5.0
* 184 *      EQUIP-SENSIBLE = 0.3  INF-METHOD = NONE  ..
* 185 *
* 186 *      U-W      HEIGHT = 29.7  WIDTH = 29.7  CONS = FLOORCON
* 187 *      AZIMUTH = 315  ..
* 188 *
* 189 *      ROOF      HEIGHT = 29.7  WIDTH = 29.7  CONS = ROOF_CON
* 190 *      AZIMUTH = 315  TILT = 0  ..
* 191 *
* 192 *
* 193 *      CLINIC_N  =SPACE  AREA = 5350.0  VOLUME = 42800.0
* 194 *      AZIMUTH = 315  TEMPERATURE = (72.5)
* 195 *      ZONE-TYPE = CONDITIONED  PEOPLE-SCHEDULE = PEOPLE_Y
* 196 *      NUMBER-OF-PEOPLE = 100.0  PEOPLE-HEAT-GAIN = 450.0
* 197 *      PEOPLE-HG-SENS = 1.0  LIGHTING-TYPE = REC-FLUOR-RV
* 198 *      LIGHTING-W/SQFT = 1.64
* 199 *      LIGHTING-SCHEDULE = LIGHT_SCHD
* 200 *      EQUIP-SCHEDULE = PEOPLE_Y  EQUIPMENT-KW = 20.0
* 201 *      EQUIP-SENSIBLE = 0.3  SOURCE-SENSIBLE = 0.0
* 202 *      INF-METHOD = AIR-CHANGE  AIR-CHANGES/HR = 0.33
* 203 *      INF-SCHEDULE = FULL_ON  ..
* 204 *
* 205 *      U-W      HEIGHT = 73.1  WIDTH = 73.1  CONS = FLOORCON
* 206 *      AZIMUTH = 315  ..
* 207 *
* 208 *      ROOF      HEIGHT = 73.1  WIDTH = 73.1  CONS = ROOF_CON
* 209 *      AZIMUTH = 315  TILT = 0  ..
* 210 *

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* 211 *
* 212 * CLINIC_NE =SPACE AREA = 17116.0 VOLUME = 136924.0
* 213 * AZIMUTH = 315 TEMPERATURE = (72.5)
* 214 * ZONE-TYPE = CONDITIONED PEOPLE-SCHEDULE = PEOPLE_Y
* 215 * NUMBER-OF-PEOPLE = 100.0 PEOPLE-HEAT-GAIN = 450.0
* 216 * PEOPLE-HG-SENS = 1.0 LIGHTING-TYPE = REC-FLUOR-RV
* 217 * LIGHTING-W/SQFT = 1.64
* 218 * LIGHTING-SCHEDULE = LIGHT_SCHD
* 219 * EQUIP-SCHEDULE = PEOPLE_Y EQUIPMENT-KW = 20.0
* 220 * EQUIP-SENSIBLE = 0.3 INF-METHOD = AIR-CHANGE
* 221 * AIR-CHANGES/HR = 0.33 INF-SCHEDULE = FULL_ON ..
* 222 *
* 223 * U-W HEIGHT = 157.0 WIDTH = 109.0 CONS = FLOORCON
* 224 * AZIMUTH = 315 ..
* 225 *
* 226 * ROOF HEIGHT = 157.0 WIDTH = 109.0 CONS = ROOF_CON
* 227 * AZIMUTH = 315 TILT = 0 ..
* 228 *
* 229 * E-W HEIGHT = 8.0 WIDTH = 157.0 CONS = WALL_CON
* 230 * AZIMUTH = 45 ..
* 231 *
* 232 * DOOR HEIGHT = 7.5 WIDTH = 3.0 CONS = DOOR_CON
* 233 * MULTIPLIER = 2.0 ..
* 234 *
* 235 * DOOR HEIGHT = 11.0 WIDTH = 12.0 CONS = DOOR_CON ..
* 236 *
* 237 * E-W HEIGHT = 8.0 WIDTH = 109.0 CONS = WALL_CON
* 238 * AZIMUTH = 315 ..
* 239 *
* 240 * DOOR HEIGHT = 11.0 WIDTH = 12.0 CONS = DOOR_CON ..
* 241 *
* 242 * DOOR HEIGHT = 7.5 WIDTH = 3.0 CONS = DOOR_CON
* 243 * MULTIPLIER = 6.0 ..
* 244 *
* 245 * E-W HEIGHT = 8.0 WIDTH = 19.0 CONS = WALL_CON
* 246 * AZIMUTH = 225 ..
* 247 *
* 248 * DOOR HEIGHT = 7.5 WIDTH = 3.0 CONS = DOOR_CON
* 249 * MULTIPLIER = 2.0 ..
* 250 *
* 251 *
* 252 * CLINIC_S =SPACE AREA = 19956.0 VOLUME = 159648.0
* 253 * AZIMUTH = 315 TEMPERATURE = (72.5)
* 254 * ZONE-TYPE = CONDITIONED PEOPLE-SCHEDULE = PEOPLE_Y
* 255 * NUMBER-OF-PEOPLE = 100.0 PEOPLE-HEAT-GAIN = 450.0
* 256 * PEOPLE-HG-SENS = 1.0 LIGHTING-TYPE = REC-FLUOR-RV
* 257 * LIGHTING-W/SQFT = 1.64
* 258 * LIGHTING-SCHEDULE = LIGHT_SCHD
* 259 * EQUIP-SCHEDULE = PEOPLE_Y EQUIPMENT-KW = 20.0
* 260 * EQUIP-SENSIBLE = 0.3 INF-METHOD = AIR-CHANGE
* 261 * AIR-CHANGES/HR = 0.33 INF-SCHEDULE = FULL_ON ..
* 262 *
* 263 * U-W HEIGHT = 89.9 WIDTH = 222.0 CONS = FLOORCON
* 264 * AZIMUTH = 315 ..
* 265 *
* 266 * ROOF HEIGHT = 89.9 WIDTH = 222.0 CONS = ROOF_CON
* 267 * AZIMUTH = 315 TILT = 0 ..
* 268 *
* 269 * E-W HEIGHT = 8.0 WIDTH = 222.0 CONS = WALL_CON
* 270 * AZIMUTH = 135 TILT = 0 ..
* 271 *
* 272 * WINDOW HEIGHT = 4.0 WIDTH = 2.5 G-T = GTYPE1
* 273 * MULTIPLIER = 30.0 ..
* 274 *
* 275 * DOOR HEIGHT = 7.5 WIDTH = 3.0 CONS = DOOR_CON
* 276 * MULTIPLIER = 2.0 ..
* 277 *
* 278 * E-W HEIGHT = 8.0 WIDTH = 89.0 CONS = WALL_CON
* 279 * AZIMUTH = 45 TILT = 0 ..
* 280 *
* 281 * DOOR HEIGHT = 7.5 WIDTH = 3.0 CONS = DOOR_CON
* 282 * MULTIPLIER = 3.0 ..
* 283 *
* 284 * WINDOW HEIGHT = 4.0 WIDTH = 2.5 G-T = GTYPE1 ..
* 285 *
* 286 * E-W HEIGHT = 8.0 WIDTH = 7.0 CONS = WALL_CON
* 287 * AZIMUTH = 45 TILT = 0 ..
* 288 *
* 289 *
* 290 * OFFICES =SPACE AREA = 5400.0 VOLUME = 43200.0
* 291 * AZIMUTH = 315 ZONE-TYPE = CONDITIONED
* 292 * PEOPLE-SCHEDULE = PEOPLE_Y NUMBER-OF-PEOPLE = 100.0
* 293 * PEOPLE-HEAT-GAIN = 450.0 PEOPLE-HG-SENS = 1.0
* 294 * LIGHTING-TYPE = REC-FLUOR-RV LIGHTING-W/SQFT = 1.64
* 295 * LIGHTING-SCHEDULE = LIGHT_SCHD
* 296 * EQUIP-SCHEDULE = PEOPLE_Y EQUIPMENT-KW = 5.0
* 297 * EQUIP-SENSIBLE = 0.0 INF-METHOD = AIR-CHANGE
* 298 * AIR-CHANGES/HR = 0.33 INF-SCHEDULE = FULL_ON ..
* 299 *
* 300 * U-W HEIGHT = 90.0 WIDTH = 30.0 CONS = FLOORCON
* 301 * AZIMUTH = 315 ..
* 302 *
* 303 * ROOF HEIGHT = 90.0 WIDTH = 30.0 CONS = ROOF_CON
* 304 * AZIMUTH = 315 TILT = 0 ..
* 305 *
* 306 * E-W HEIGHT = 16.0 WIDTH = 90.0 CONS = WALL_CON
* 307 * AZIMUTH = 225 ..
* 308 *
* 309 * WINDOW HEIGHT = 4.0 WIDTH = 2.5 G-T = GTYPE1
* 310 * MULTIPLIER = 15.0 ..
* 311 *
* 312 * DOOR HEIGHT = 7.5 WIDTH = 3.0 CONS = DOOR_CON ..
* 313 *
* 314 *
* 315 * STORAGE =SPACE AREA = 12920.0 VOLUME = 229330.0
* 316 * AZIMUTH = 315 TEMPERATURE = (65.)
* 317 * ZONE-TYPE = CONDITIONED PEOPLE-SCHEDULE = PEOPLE_Y
* 318 * NUMBER-OF-PEOPLE = 20.0 PEOPLE-HEAT-GAIN = 450.0

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* 319 *      PEOPLE-HG-SENS = 1.0  LIGHTING-TYPE = REC-FLUOR-RV
* 320 *      LIGHTING-W/SQFT = 1.64
* 321 *      LIGHTING-SCHEDULE = LIGHT_SCHD  EQUIP-SENSIBLE = 0.0
* 322 *      INF-METHOD = AIR-CHANGE  AIR-CHANGES/HR = 0.33
* 323 *      INF-SCHEDULE = FULL_ON  ..
* 324 *
* 325 *      U-W      HEIGHT = 148.0  WIDTH = 87.3  CONS = FLOORCON
* 326 *      AZIMUTH = 315  ..
* 327 *
* 328 *      ROOF     HEIGHT = 148.0  WIDTH = 87.3  CONS = ROOF_CON
* 329 *      AZIMUTH = 315  TILT = 0  ..
* 330 *
* 331 *      E-W      HEIGHT = 17.8  WIDTH = 148.0  CONS = WALL_CON
* 332 *      AZIMUTH = 45  ..
* 333 *
* 334 *      DOOR     HEIGHT = 7.5  WIDTH = 3.0  CONS = DOOR_CON
* 335 *      MULTIPLIER = 10.0  ..
* 336 *
* 337 *      DOOR     HEIGHT = 10.0  WIDTH = 8.0  CONS = DOOR_CON
* 338 *      MULTIPLIER = 2.0  ..
* 339 *
* 340 *      WINDOW   HEIGHT = 4.0  WIDTH = 2.5  G-T = GTYPE1 ..
* 341 *
* 342 *      E-W      HEIGHT = 17.8  WIDTH = 87.0  CONS = WALL_CON
* 343 *      AZIMUTH = 315  ..
* 344 *
* 345 *      DOOR     HEIGHT = 7.5  WIDTH = 3.0  CONS = DOOR_CON ..
* 346 *
* 347 *      E-W      HEIGHT = 17.8  WIDTH = 36.0  CONS = WALL_CON
* 348 *      AZIMUTH = 225  ..
* 349 *
* 350 *
* 351 *  AMB_GARAGE =SPACE  AREA = 1814.0  VOLUME = 29028.0
* 352 *      AZIMUTH = 315  ZONE-TYPE = CONDITIONED
* 353 *      PEOPLE-SCHEDULE = PEOPLE_Y  NUMBER-OF-PEOPLE = 10.0
* 354 *      PEOPLE-HEAT-GAIN = 500.0  PEOPLE-HG-SENS = 1.0
* 355 *      LIGHTING-TYPE = REC-FLUOR-RV
* 356 *      LIGHTING-SCHEDULE = LIGHT_SCHD
* 357 *      EQUIP-SCHEDULE = FULL_ON  EQUIPMENT-KW = 5.6
* 358 *      EQUIP-SENSIBLE = 0.0  INF-METHOD = AIR-CHANGE
* 359 *      AIR-CHANGES/HR = 3.64  INF-SCHEDULE = FULL_ON  ..
* 360 *
* 361 *      ROOF     HEIGHT = 61.5  WIDTH = 29.5  CONS = ROOF_CON
* 362 *      AZIMUTH = 315  TILT = 0  ..
* 363 *
* 364 *      U-W      HEIGHT = 61.5  WIDTH = 29.5  CONS = FLOORCON
* 365 *      AZIMUTH = 315  ..
* 366 *
* 367 *      E-W      HEIGHT = 16.0  WIDTH = 62.5  CONS = WALL_CON
* 368 *      AZIMUTH = 45  ..
* 369 *
* 370 *      E-W      HEIGHT = 16.0  WIDTH = 29.5  CONS = WALL_CON
* 371 *      AZIMUTH = 315  ..
* 372 *
* 373 *      DOOR     HEIGHT = 7.5  WIDTH = 3.0  CONS = DOOR_CON ..
* 374 *
* 375 *      E-W      HEIGHT = 16.0  WIDTH = 61.5  CONS = WALL_CON
* 376 *      AZIMUTH = 225  ..
* 377 *
* 378 *      DOOR     HEIGHT = 7.5  WIDTH = 3.0  CONS = DOOR_CON ..
* 379 *
* 380 *      DOOR     HEIGHT = 9.5  WIDTH = 11.0  CONS = DOOR_CON
* 381 *      MULTIPLIER = 5.0  ..
* 382 *
* 383 *
* 384 *  ADDITION  =SPACE  AREA = 2080.0  VOLUME = 23920.0
* 385 *      AZIMUTH = 315  ZONE-TYPE = CONDITIONED
* 386 *      PEOPLE-SCHEDULE = PEOPLE_Y  NUMBER-OF-PEOPLE = 40.0
* 387 *      PEOPLE-HEAT-GAIN = 450.0  PEOPLE-HG-LAT = 0.2
* 388 *      PEOPLE-HG-SENS = 0.8  LIGHTING-TYPE = REC-FLUOR-RV
* 389 *      LIGHTING-W/SQFT = 1.0  LIGHTING-SCHEDULE = LIGHT_SCHD
* 390 *      EQUIP-SCHEDULE = PEOPLE_Y  EQUIPMENT-KW = 15.0
* 391 *      EQUIP-SENSIBLE = 0.3  INF-METHOD = AIR-CHANGE
* 392 *      AIR-CHANGES/HR = 0.33  INF-SCHEDULE = FULL_ON  ..
* 393 *
* 394 *      U-W      HEIGHT = 65.0  WIDTH = 32.0  CONS = FLOORCON
* 395 *      AZIMUTH = 315  ..
* 396 *
* 397 *      ROOF     HEIGHT = 65.0  WIDTH = 32.0  CONS = ROOF_CON
* 398 *      AZIMUTH = 315  TILT = 0  ..
* 399 *
* 400 *      WINDOW   HEIGHT = 4.0  WIDTH = 4.0  G-T = GTYPE1
* 401 *      MULTIPLIER = 6.0  ..
* 402 *
* 403 *      DOOR     HEIGHT = 7.5  WIDTH = 3.0  CONS = DOOR_CON ..
* 404 *
* 405 *      E-W      HEIGHT = 8.0  WIDTH = 32.0  CONS = WALL_CON
* 406 *      AZIMUTH = 135  ..
* 407 *
* 408 *      WINDOW   HEIGHT = 4.0  WIDTH = 4.0  G-T = GTYPE1 ..
* 409 *
* 410 *      E-W      HEIGHT = 8.0  WIDTH = 65.0  CONS = WALL_CON
* 411 *      AZIMUTH = 225  ..
* 412 *
* 413 *      E-W      HEIGHT = 8.0  WIDTH = 11.0  CONS = WALL_CON
* 414 *      AZIMUTH = 315  ..
* 415 *
* 416 *
* 417 *  END  ..
* 418 *  COMPUTE LOADS  ..
* 419 *
* 420 *  INPUT SYSTEMS  ..

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SDL PROCESSOR INPUT DATA

3/22/1995 9:23: 5 SDL RUN 1

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\$-----\$  
\$ E Z - D O E   S Y S T E M S   I N P U T \$  
\$-----\$

\$ GENERAL PROJECT DATA

TITLE LINE-1 \* EMC ENGINEERS INC. \*  
LINE-2 \*EZDOE - ELITE SOFTWARE DEVELOPMENT INC\*  
LINE-3 \* DENVER, CO 80227 \*  
LINE-4 \*BUILDING 11050, AMBULATORY HEALTH CARE \*  
LINE-5 \*MODEL WITH SETBACK, DDC, AND FORCED VENT\* ..  
ABORT ERRORS ..  
DIAGNOSTIC WARNINGS ..  
SYSTEMS-REPORT SUMMARY=(SS-A,SS-B,SS-C,SS-K) ..

\$ SCHEDULES

FULL\_ON\_D =DAY-SCHEDULE (1,24) (1.) ..  
FULL\_OFF\_D =DAY-SCHEDULE (1,24) (0.) ..  
COOL75\_D =DAY-SCHEDULE (1,24) (78.) ..  
HEAT70\_D =DAY-SCHEDULE (1,24) (68.) ..  
HEAT65\_D =DAY-SCHEDULE (1,24) (65.) ..  
FAN\_WSB\_D =DAY-SCHEDULE (1,4) (0.) ..  
(5,17) (1.) ..  
(18,24) (0.) ..  
HT70\_WSB\_D =DAY-SCHEDULE (1,4) (50.) ..  
(5,17) (68.) ..  
(18,24) (50.) ..  
CL75\_WSB\_D =DAY-SCHEDULE (1,4) (85.) ..  
(5,17) (78.) ..  
(18,24) (85.) ..  
HEAT\_50\_D =DAY-SCHEDULE (1,24) (50.) ..  
COOL\_85\_D =DAY-SCHEDULE (1,24) (85.) ..  
MOA\_46\_D =DAY-SCHEDULE (1,5) (0.) ..  
(6,17) (0.46) ..  
(18,24) (0.) ..  
MOA\_27\_D =DAY-SCHEDULE (1,5) (0.) ..  
(6,17) (0.27) ..  
(18,24) (0.) ..  
MOA\_37\_D =DAY-SCHEDULE (1,5) (0.) ..  
(6,17) (0.37) ..  
(18,24) (0.) ..  
MOA\_25\_D =DAY-SCHEDULE (1,5) (0.) ..  
(6,17) (0.25) ..  
(18,24) (0.) ..  
MOA\_.09\_D =DAY-SCHEDULE (1,5) (0.) ..  
(6,17) (0.09) ..  
(18,24) (0.) ..

FULL\_ON\_W =WEEK-SCHEDULE (ALL) FULL\_ON\_D ..  
FULL\_OFF\_W =WEEK-SCHEDULE (ALL) FULL\_OFF\_D ..  
COOL75\_W =WEEK-SCHEDULE (ALL) COOL75\_D ..  
HEAT70\_W =WEEK-SCHEDULE (ALL) HEAT70\_D ..  
HEAT65\_W =WEEK-SCHEDULE (ALL) HEAT65\_D ..  
FAN\_WSB\_W =WEEK-SCHEDULE (WD) FAN\_WSB\_D ..  
(SAT) FULL\_OFF\_D ..  
(SUN) FULL\_OFF\_D ..  
(HOL) FAN\_WSB\_D ..  
HT70\_WSB\_W =WEEK-SCHEDULE (WD) HT70\_WSB\_D ..  
(SAT) HEAT\_50\_D ..  
(SUN) HEAT\_50\_D ..  
(HOL) HT70\_WSB\_D ..  
CL75\_WSB\_W =WEEK-SCHEDULE (WD) CL75\_WSB\_D ..  
(SAT) COOL\_85\_D ..  
(SUN) COOL\_85\_D ..  
(HOL) CL75\_WSB\_D ..  
MOA\_46\_W =WEEK-SCHEDULE (WD) MOA\_46\_D ..  
(SAT) FULL\_OFF\_D ..  
(SUN) FULL\_OFF\_D ..  
(HOL) MOA\_46\_D ..  
MOA\_27\_W =WEEK-SCHEDULE (WD) MOA\_27\_D ..  
(SAT) FULL\_OFF\_D ..  
(SUN) FULL\_OFF\_D ..  
(HOL) MOA\_27\_D ..  
MOA\_37\_W =WEEK-SCHEDULE (WD) MOA\_37\_D ..  
(SAT) FULL\_OFF\_D ..  
(SUN) FULL\_OFF\_D ..  
(HOL) MOA\_37\_D ..  
MOA\_25\_W =WEEK-SCHEDULE (WD) MOA\_25\_D ..  
(SAT) FULL\_OFF\_D ..  
(SUN) FULL\_OFF\_D ..  
(HOL) MOA\_25\_D ..  
MOA\_.09\_W =WEEK-SCHEDULE (WD) MOA\_.09\_D ..  
(SAT) FULL\_OFF\_D ..  
(SUN) FULL\_OFF\_D ..

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* 521 *                               (HOL) MOA_.09_D ..
* 522 *
* 523 *
* 524 * $ FULL ON SCHEDULE
* 525 * FULL_ON =SCHEDULE THRU DEC 31 FULL_ON_W ..
* 526 *
* 527 * $ FULL OFF SCHEDULE
* 528 * FULL_OFF =SCHEDULE THRU DEC 31 FULL_OFF_W ..
* 529 *
* 530 * $ HEATING SCHEDULE, 70F
* 531 * HEAT70_SCH =SCHEDULE THRU DEC 31 HEAT70_W ..
* 532 *
* 533 * $ COOLING SCHEDULE, 75F
* 534 * COOL75_SCH =SCHEDULE THRU DEC 31 COOL75_W ..
* 535 *
* 536 * $ GARAGE HEATING SCHEDULE
* 537 * HEAT65 =SCHEDULE THRU DEC 31 HEAT65_W ..
* 538 *
* 539 * $ HEATING HOURS
* 540 * HEAT_HRS =SCHEDULE THRU MAY 15 FULL_ON_W
* 541 * THRU OCT 1 FULL_OFF_W
* 542 * THRU DEC 31 FULL_ON_W ..
* 543 *
* 544 * $ COOLING HOURS AVAIL.
* 545 * COOL_HRS =SCHEDULE THRU MAY 15 FULL_OFF_W
* 546 * THRU OCT 1 FULL_ON_W
* 547 * THRU DEC 31 FULL_OFF_W ..
* 548 *
* 549 * $ FAN SET BACK SCHEDULE
* 550 * FAN_W_SB =SCHEDULE THRU DEC 31 FAN_WSB_W ..
* 551 *
* 552 * $ HEATING SET BACK SCHED
* 553 * HT_70_W_SB =SCHEDULE THRU DEC 31 HT70_WSB_W ..
* 554 *
* 555 * CL_75_W_SB =SCHEDULE THRU DEC 31 CL75_WSB_W ..
* 556 *
* 557 * $ FORCED VENTILATION
* 558 * MOA.46_FV =SCHEDULE THRU DEC 31 MOA.46_W ..
* 559 *
* 560 * MOA.27_FV =SCHEDULE THRU DEC 31 MOA.27_W ..
* 561 *
* 562 * MOA.37_FV =SCHEDULE THRU DEC 31 MOA.37_W ..
* 563 *
* 564 * MOA.25_FV =SCHEDULE THRU DEC 31 MOA.25_W ..
* 565 *
* 566 * MOA.09_FV =SCHEDULE THRU DEC 31 MOA.09_W ..
* 567 *
* 568 *
* 569 *
* 570 * $ ZONE DESCRIPTION
* 571 *
* 572 * CLINIC_SW =ZONE DESIGN-HEAT-T = 70.0 DESIGN-COOL-T = 75.0
* 573 * HEAT-TEMP-SCH = HT_70_W_SB COOL-TEMP-SCH = CL_75_W_SB
* 574 * ZONE-TYPE = CONDITIONED
* 575 * THERMOSTAT-TYPE = PROPORTIONAL THROTTLING-RANGE = 1.0
* 576 * BASEBOARD-CTRL = THERMOSTATIC
* 577 * BASEBOARD-RATING = -47170000. ASSIGNED-CFM = 10130.
* 578 * OUTSIDE-AIR-CFM = 4635. SIZING-OPTION = FROM-LOADS
* 579 * RATED-CFM = 10130.0 MIN-CFM-RATIO = 0.75
* 580 * HEATING-CAPACITY = -487800.0
* 581 * COOLING-CAPACITY = 306220.0 ..
* 582 *
* 583 * CLINIC_NW =ZONE DESIGN-HEAT-T = 70.0 DESIGN-COOL-T = 75.0
* 584 * HEAT-TEMP-SCH = HEAT70_SCH COOL-TEMP-SCH = COOL75_SCH
* 585 * ZONE-TYPE = CONDITIONED
* 586 * THERMOSTAT-TYPE = PROPORTIONAL THROTTLING-RANGE = 1.0
* 587 * BASEBOARD-CTRL = THERMOSTATIC
* 588 * BASEBOARD-RATING = -21716000. ASSIGNED-CFM = 3190.
* 589 * OUTSIDE-AIR-CFM = 800. SIZING-OPTION = FROM-LOADS
* 590 * RATED-CFM = 3190.0 MIN-CFM-RATIO = 0.77
* 591 * HEATING-CAPACITY = -120000.0
* 592 * COOLING-CAPACITY = 96494.0 ..
* 593 *
* 594 * OPER_ROOMS =ZONE DESIGN-HEAT-T = 70.0 DESIGN-COOL-T = 75.0
* 595 * HEAT-TEMP-SCH = HEAT70_SCH COOL-TEMP-SCH = COOL75_SCH
* 596 * ZONE-TYPE = CONDITIONED
* 597 * THERMOSTAT-TYPE = PROPORTIONAL THROTTLING-RANGE = 1.0
* 598 * BASEBOARD-CTRL = THERMOSTATIC ASSIGNED-CFM = 2100.
* 599 * SIZING-OPTION = FROM-LOADS RATED-CFM = 2100.0
* 600 * MIN-CFM-RATIO = 1.0 HEATING-CAPACITY = -176600.0
* 601 * COOLING-CAPACITY = 83927.0 ..
* 602 *
* 603 * CLINIC_N =ZONE DESIGN-HEAT-T = 70.0 DESIGN-COOL-T = 75.0
* 604 * HEAT-TEMP-SCH = HEAT70_SCH COOL-TEMP-SCH = COOL75_SCH
* 605 * ZONE-TYPE = CONDITIONED
* 606 * THERMOSTAT-TYPE = PROPORTIONAL THROTTLING-RANGE = 1.0
* 607 * BASEBOARD-CTRL = THERMOSTATIC ASSIGNED-CFM = 4005.
* 608 * OUTSIDE-AIR-CFM = 1390. SIZING-OPTION = FROM-LOADS
* 609 * RATED-CFM = 4005.0 MIN-CFM-RATIO = 0.87
* 610 * HEATING-CAPACITY = -165300.0
* 611 * COOLING-CAPACITY = 121147.0 ..
* 612 *
* 613 * CLINIC_NE =ZONE DESIGN-HEAT-T = 70.0 DESIGN-COOL-T = 75.0
* 614 * HEAT-TEMP-SCH = HT_70_W_SB COOL-TEMP-SCH = CL_75_W_SB
* 615 * ZONE-TYPE = CONDITIONED
* 616 * THERMOSTAT-TYPE = PROPORTIONAL THROTTLING-RANGE = 1.0
* 617 * BASEBOARD-CTRL = THERMOSTATIC
* 618 * BASEBOARD-RATING = -15469200. ASSIGNED-CFM = 9915.
* 619 * OUTSIDE-AIR-CFM = 3720. SIZING-OPTION = FROM-LOADS
* 620 * RATED-CFM = 9915.0 MIN-CFM-RATIO = 0.38
* 621 * HEATING-CAPACITY = -383300.0
* 622 * COOLING-CAPACITY = 299920.0 ..
* 623 *
* 624 * CLINIC_S =ZONE DESIGN-HEAT-T = 70.0 DESIGN-COOL-T = 75.0
* 625 * HEAT-TEMP-SCH = HT_70_W_SB COOL-TEMP-SCH = CL_75_W_SB
* 626 * ZONE-TYPE = CONDITIONED
* 627 * THERMOSTAT-TYPE = PROPORTIONAL THROTTLING-RANGE = 1.0
* 628 * BASEBOARD-CTRL = THERMOSTATIC

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* 629 *      BASEBOARD-RATING = -66175000. ASSIGNED-CFM = 13685.
* 630 *      OUTSIDE-AIR-CFM = 3420. SIZING-OPTION = FROM-LOADS
* 631 *      RATED-CFM = 13685.0 MIN-CFM-RATIO = 0.81
* 632 *      EXHAUST-CFM = 3420.0 HEATING-CAPACITY = -586000.0
* 633 *      COOLING-CAPACITY = 413960.0 ..
* 634 *
* 635 *      OFFICES =ZONE      DESIGN-HEAT-T = 70.0 DESIGN-COOL-T = 80.0
* 636 *      HEAT-TEMP-SCH = HT 70 W SB ZONE-TYPE = CONDITIONED
* 637 *      THERMOSTAT-TYPE = PROPORTIONAL THROTTLING-RANGE = 1.0
* 638 *      BASEBOARD-CTRL = THERMOSTATIC ASSIGNED-CFM = 5000.
* 639 *      OUTSIDE-AIR-CFM = 450. SIZING-OPTION = FROM-LOADS
* 640 *      RATED-CFM = 5000.0 MIN-CFM-RATIO = 1.0
* 641 *      HEATING-CAPACITY = -185000.0 ..
* 642 *
* 643 *      STORAGE =ZONE      DESIGN-HEAT-T = 65.0 DESIGN-COOL-T = 80.0
* 644 *      HEAT-TEMP-SCH = HEAT65 ZONE-TYPE = CONDITIONED
* 645 *      THERMOSTAT-TYPE = PROPORTIONAL THROTTLING-RANGE = 1.0
* 646 *      BASEBOARD-CTRL = THERMOSTATIC
* 647 *      BASEBOARD-RATING = -62800. ASSIGNED-CFM = 9000.
* 648 *      OUTSIDE-AIR-CFM = 810. SIZING-OPTION = FROM-LOADS
* 649 *      RATED-CFM = 9000.0 MIN-CFM-RATIO = 1.0
* 650 *      HEATING-CAPACITY = -11700.0 ..
* 651 *
* 652 *      AMB_GARAGE =ZONE    DESIGN-HEAT-T = 65.0 DESIGN-COOL-T = 90.0
* 653 *      HEAT-TEMP-SCH = HEAT65 ZONE-TYPE = CONDITIONED
* 654 *      THERMOSTAT-TYPE = PROPORTIONAL THROTTLING-RANGE = 1.0
* 655 *      BASEBOARD-CTRL = THERMOSTATIC ASSIGNED-CFM = 1746.
* 656 *      SIZING-OPTION = FROM-LOADS RATED-CFM = 1746.0
* 657 *      MIN-CFM-RATIO = 1.0 ..
* 658 *
* 659 *      ADDITION =ZONE      DESIGN-HEAT-T = 70.0 DESIGN-COOL-T = 75.0
* 660 *      HEAT-TEMP-SCH = HT 70 W SB COOL-TEMP-SCH = CL_75_W_SB
* 661 *      ZONE-TYPE = CONDITIONED
* 662 *      THERMOSTAT-TYPE = PROPORTIONAL THROTTLING-RANGE = 1.0
* 663 *      BASEBOARD-CTRL = THERMOSTATIC ASSIGNED-CFM = 3400.
* 664 *      OUTSIDE-AIR-CFM = 510. SIZING-OPTION = FROM-LOADS
* 665 *      RATED-CFM = 3400.0 MIN-CFM-RATIO = 1.0
* 666 *      EXHAUST-CFM = 510.0 HEATING-CAPACITY = -142200.0
* 667 *      COOLING-CAPACITY = 102000.0 ..
* 668 *
* 669 *
* 670 *      $ SYSTEM DESCRIPTION
* 671 *
* 672 *      AHU_1 =SYSTEM      SYSTEM-TYPE = VAVS
* 673 *      MAX-SUPPLY-T = 135.0 MIN-SUPPLY-T = 65.0
* 674 *      HEATING-SCHEDULE = FULL_ON
* 675 *      COOLING-SCHEDULE = FULL_ON PREHEAT-T = 54.5
* 676 *      MIN-HUMIDITY = 30.0 ECONO-LIMIT-T = 65.0
* 677 *      ECONO-LOW-LIMIT = 55.0 SUPPLY-CFM = 10130.
* 678 *      RETURN-CFM = 6483. RATED-CFM = 10130.
* 679 *      MIN-OUTSIDE-AIR = 0.46 MIN-AIR-SCH = MOA.46 FV
* 680 *      FAN-SCHEDULE = FAN W_SB SUPPLY-DELTA-T = 3.4
* 681 *      SUPPLY-KW = 0.00084 NIGHT-CYCLE-CTRL = STAY-OFF
* 682 *      RETURN-STATIC = 1.0 RETURN-EFF = 0.97
* 683 *      NIGHT-VENT-DT = 0.0 MIN-CFM-RATIO = 0.75
* 684 *      REHEAT-DELTA-T = 20.5 COOLING-CAPACITY = 306422.
* 685 *      HEATING-CAPACITY = -487800. FURNACE-AUX = 0.
* 686 *      PREHEAT-SOURCE = HOT-WATER
* 687 *      SIZING-OPTION = COINCIDENT RETURN-AIR-PATH = DIRECT
* 688 *      ZONE-NAMES = (CLINIC_SW) ..
* 689 *
* 690 *      AHU_2 =SYSTEM      SYSTEM-TYPE = VAVS
* 691 *      MAX-SUPPLY-T = 135.0 MIN-SUPPLY-T = 65.0
* 692 *      HEATING-SCHEDULE = FULL_ON
* 693 *      COOLING-SCHEDULE = FULL_ON PREHEAT-T = 63.3
* 694 *      MIN-HUMIDITY = 30.0 ECONO-LIMIT-T = 65.0
* 695 *      ECONO-LOW-LIMIT = 55.0 SUPPLY-CFM = 3190.
* 696 *      RETURN-CFM = 2329. RATED-CFM = 3190.
* 697 *      MIN-OUTSIDE-AIR = 0.27 SUPPLY-DELTA-T = 3.4
* 698 *      SUPPLY-KW = 0.00089
* 699 *      MOTOR-PLACEMENT = OUTSIDE-AIRFLOW
* 700 *      NIGHT-CYCLE-CTRL = STAY-OFF RETURN-STATIC = 0.9
* 701 *      RETURN-EFF = 0.97 NIGHT-VENT-DT = 0.0
* 702 *      MIN-CFM-RATIO = 0.77 REHEAT-DELTA-T = 6.7
* 703 *      COOLING-CAPACITY = 96494.
* 704 *      HEATING-CAPACITY = -120000. FURNACE-AUX = 0.
* 705 *      PREHEAT-SOURCE = HOT-WATER
* 706 *      SIZING-OPTION = COINCIDENT RETURN-AIR-PATH = DIRECT
* 707 *      ZONE-NAMES = (CLINIC_NW) ..
* 708 *
* 709 *      AHU_3 =SYSTEM      SYSTEM-TYPE = VAVS
* 710 *      MAX-SUPPLY-T = 135.0 MIN-SUPPLY-T = 65.0
* 711 *      HEATING-SCHEDULE = FULL_ON
* 712 *      COOLING-SCHEDULE = FULL_ON PREHEAT-T = 49.0
* 713 *      MIN-HUMIDITY = 30.0 ECONO-LIMIT-T = 65.0
* 714 *      ECONO-LOW-LIMIT = 55.0 SUPPLY-CFM = 2100.
* 715 *      RATED-CFM = 2100. MIN-OUTSIDE-AIR = 1.0
* 716 *      RECOVERY-EFF = 0.41 SUPPLY-DELTA-T = 3.4
* 717 *      SUPPLY-KW = 0.00107
* 718 *      MOTOR-PLACEMENT = OUTSIDE-AIRFLOW
* 719 *      NIGHT-CYCLE-CTRL = STAY-OFF RETURN-STATIC = 2.0
* 720 *      RETURN-EFF = 0.97 NIGHT-VENT-DT = 0.0
* 721 *      MIN-CFM-RATIO = 0.76 REHEAT-DELTA-T = 26.
* 722 *      COOLING-CAPACITY = 83927.
* 723 *      HEATING-CAPACITY = -176600. FURNACE-AUX = 0.
* 724 *      PREHEAT-SOURCE = HOT-WATER
* 725 *      SIZING-OPTION = COINCIDENT RETURN-AIR-PATH = DIRECT
* 726 *      ZONE-NAMES = (OPER_ROOMS) ..
* 727 *
* 728 *      AHU_4 =SYSTEM      SYSTEM-TYPE = VAVS
* 729 *      MAX-SUPPLY-T = 135.0 MIN-SUPPLY-T = 65.0
* 730 *      HEATING-SCHEDULE = FULL_ON
* 731 *      COOLING-SCHEDULE = FULL_ON PREHEAT-T = 55.8
* 732 *      MIN-HUMIDITY = 30.0 ECONO-LIMIT-T = 65.0
* 733 *      ECONO-LOW-LIMIT = 55.0 SUPPLY-CFM = 4005.
* 734 *      RETURN-CFM = 2523. RATED-CFM = 4005.
* 735 *      MIN-OUTSIDE-AIR = 0.37 SUPPLY-DELTA-T = 3.4
* 736 *      SUPPLY-KW = 0.00078 NIGHT-CYCLE-CTRL = STAY-OFF

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* 737 * RETURN-STATIC = 0.7 RETURN-EFF = 0.97
* 738 * NIGHT-VENT-DT = 0.0 MIN-CFM-RATIO = 0.87
* 739 * REHEAT-DELTA-T = 14.2 COOLING-CAPACITY = 121147.
* 740 * HEATING-CAPACITY = -165300. FURNACE-AUX = 0.
* 741 * PREHEAT-SOURCE = HOT-WATER
* 742 * SIZING-OPTION = COINCIDENT RETURN-AIR-PATH = DIRECT
* 743 * ZONE-NAMES = (CLINIC_N) ..
* 744 *
* 745 * AHU_5 =SYSTEM SYSTEM-TYPE = VAVS
* 746 * MAX-SUPPLY-T = 135.0 MIN-SUPPLY-T = 65.0
* 747 * HEATING-SCHEDULE = FULL_ON
* 748 * COOLING-SCHEDULE = FULL_ON PREHEAT-T = 58.8
* 749 * MIN-HUMIDITY = 30.0 ECONO-LIMIT-T = 65.0
* 750 * ECONO-LOW-LIMIT = 55.0 SUPPLY-CFM = 9915.
* 751 * RETURN-CFM = 7436. RATED-CFM = 9915.
* 752 * MIN-OUTSIDE-AIR = 0.25 MIN-AIR-SCH = MOA.25_FV
* 753 * FAN-SCHEDULE = FAN_W_SB SUPPLY-DELTA-T = 3.4
* 754 * SUPPLY-KW = 0.00055
* 755 * MOTOR-PLACEMENT = OUTSIDE-AIRFLOW
* 756 * NIGHT-CYCLE-CTRL = STAY-OFF RETURN-STATIC = 1.0
* 757 * RETURN-EFF = 0.97 NIGHT-VENT-DT = 0.0
* 758 * MIN-CFM-RATIO = 0.76 REHEAT-DELTA-T = 11.2
* 759 * COOLING-CAPACITY = 299920.
* 760 * HEATING-CAPACITY = -383300. FURNACE-AUX = 0.
* 761 * PREHEAT-SOURCE = HOT-WATER
* 762 * SIZING-OPTION = COINCIDENT RETURN-AIR-PATH = DIRECT
* 763 * ZONE-NAMES = (CLINIC_NE) ..
* 764 *
* 765 * AHU_6 =SYSTEM SYSTEM-TYPE = VAVS
* 766 * MAX-SUPPLY-T = 135.0 MIN-SUPPLY-T = 65.0
* 767 * HEATING-SCHEDULE = FULL_ON
* 768 * COOLING-SCHEDULE = FULL_ON PREHEAT-T = 60.0
* 769 * MIN-HUMIDITY = 30.0 ECONO-LIMIT-T = 65.0
* 770 * ECONO-LOW-LIMIT = 55.0 SUPPLY-CFM = 13685.
* 771 * RETURN-CFM = 3421. RATED-CFM = 13685.
* 772 * MIN-OUTSIDE-AIR = 0.25 MIN-AIR-SCH = MOA.25_FV
* 773 * FAN-SCHEDULE = FAN_W_SB SUPPLY-DELTA-T = 3.4
* 774 * SUPPLY-KW = 0.00053
* 775 * MOTOR-PLACEMENT = OUTSIDE-AIRFLOW
* 776 * NIGHT-CYCLE-CTRL = STAY-OFF RETURN-STATIC = 1.1
* 777 * RETURN-EFF = 0.97 NIGHT-VENT-DT = 0.0
* 778 * MIN-CFM-RATIO = 0.81 REHEAT-DELTA-T = 15.
* 779 * COOLING-CAPACITY = 413960.
* 780 * HEATING-CAPACITY = -189941. FURNACE-AUX = 0.
* 781 * PREHEAT-SOURCE = HOT-WATER
* 782 * SIZING-OPTION = COINCIDENT RETURN-AIR-PATH = DIRECT
* 783 * ZONE-NAMES = (CLINIC_S) ..
* 784 *
* 785 * AHU_1X =SYSTEM SYSTEM-TYPE = HVSYS
* 786 * MAX-SUPPLY-T = 135.0 HEATING-SCHEDULE = FULL_ON
* 787 * MIN-HUMIDITY = 30.0 ECONO-LIMIT-T = 65.0
* 788 * ECONO-LOW-LIMIT = 55.0 SUPPLY-CFM = 5000.
* 789 * RETURN-CFM = 4573. RATED-CFM = 5000.
* 790 * MIN-OUTSIDE-AIR = 0.09 MIN-AIR-SCH = MOA.09_FV
* 791 * FAN-SCHEDULE = FAN_W_SB SUPPLY-DELTA-T = 2.4
* 792 * SUPPLY-KW = 0.0006
* 793 * MOTOR-PLACEMENT = OUTSIDE-AIRFLOW
* 794 * NIGHT-CYCLE-CTRL = STAY-OFF NIGHT-VENT-DT = 0.0
* 795 * HEATING-CAPACITY = -185000. FURNACE-AUX = 0.
* 796 * ZONE-NAMES = (OFFICES) ..
* 797 *
* 798 * AHU_2X =SYSTEM SYSTEM-TYPE = HVSYS
* 799 * MAX-SUPPLY-T = 135.0 HEATING-SCHEDULE = FULL_ON
* 800 * MIN-HUMIDITY = 30.0 ECONO-LIMIT-T = 65.0
* 801 * ECONO-LOW-LIMIT = 55.0 SUPPLY-CFM = 9000.
* 802 * RETURN-CFM = 8190. RATED-CFM = 9000.
* 803 * MIN-OUTSIDE-AIR = 0.09 MIN-AIR-SCH = MOA.09_FV
* 804 * FAN-SCHEDULE = FAN_W_SB SUPPLY-DELTA-T = 2.4
* 805 * SUPPLY-KW = 0.00059
* 806 * MOTOR-PLACEMENT = OUTSIDE-AIRFLOW
* 807 * NIGHT-CYCLE-CTRL = STAY-OFF NIGHT-VENT-DT = 0.0
* 808 * HEATING-CAPACITY = -198800. FURNACE-AUX = 0.
* 809 * ZONE-NAMES = (STORAGE) ..
* 810 *
* 811 * GARAGE_UH =SYSTEM SYSTEM-TYPE = UHT
* 812 * MAX-SUPPLY-T = 135.0 HEATING-SCHEDULE = FULL_ON
* 813 * RATED-CFM = 1746. SUPPLY-DELTA-T = 0.18
* 814 * SUPPLY-KW = 0.000059
* 815 * NIGHT-CYCLE-CTRL = CYCLE-ON-ANY
* 816 * HEATING-CAPACITY = -100000. FURNACE-AUX = 0.
* 817 * ZONE-NAMES = (AMB_GARAGE) ..
* 818 *
* 819 * ADDIT_AHU =SYSTEM SYSTEM-TYPE = PTAC
* 820 * MAX-SUPPLY-T = 135.0 MIN-SUPPLY-T = 45.0
* 821 * HEATING-SCHEDULE = FULL_ON
* 822 * COOLING-SCHEDULE = FULL_ON SUPPLY-CFM = 3400.
* 823 * RATED-CFM = 3400. MIN-OUTSIDE-AIR = 0.1
* 824 * FAN-SCHEDULE = FAN_W_SB
* 825 * FAN-CONTROL = CONSTANT-VOLUME SUPPLY-DELTA-T = 0.2
* 826 * SUPPLY-KW = 0.00007 NIGHT-CYCLE-CTRL = STAY-OFF
* 827 * NIGHT-VENT-DT = 0.0 COOLING-CAPACITY = 102000.
* 828 * COOL-FR-MIN = 0. HEATING-CAPACITY = -142200.
* 829 * MIN-HP-T = 0. HP-SUPP-SOURCE = HOT-WATER
* 830 * FURNACE-AUX = 0. HEAT-SOURCE = GAS-FURNACE
* 831 * ZONE-NAMES = (ADDITION) ..
* 832 *
* 833 * .END ..
* 834 * COMPUTE SYSTEMS ..
* 835 *
* 836 * INPUT PLANT ..

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P D L P R O C E S S O R I N P U T D A T A

3/22/1995 9:23: 5 PDL RUN 1

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$ E Z - D O E P L A N T S I N P U T $
$-----$

$ GENERAL PROJECT DATA

TITLE LINE-1 * EMC ENGINEERS INC. *
LINE-2 *EZDOE - ELITE SOFTWARE DEVELOPMENT INC*
LINE-3 * DENVER, CO 80227 *
LINE-4 *BUILDING 11050, AMBULATORY HEALTH CARE *
LINE-5 *MODEL WITH SETBACK, DDC, AND FORCED VENT* ..

ABORT ERRORS ..
DIAGNOSTIC WARNINGS ..
PLANT-REPORT SUMMARY=(PS-A,PS-B,BEPS)
..

$ SCHEDULES

HX_D =DAY-SCHEDULE (1,24) (1.) ..
HX_W =WEEK-SCHEDULE (ALL) HX_D ..

$ HEAT EXCHGER SCHEDULE
HX_SCHED =SCHEDULE THRU DEC 31 HX_W ..

$ EQUIPMENT DESCRIPTION

HX1A&B&X =PLANT-EQUIPMENT TYPE = HTANK-STORAGE
SIZE = 2.6 ..
ACCUS =PLANT-EQUIPMENT TYPE = OPEN-REC-CHLR
SIZE = 0.5 INSTALLED-NUMBER = 6
MAX-NUMBER-AVAIL = 6 ..

PLANT-PARAMETERS MAKEUP-WTR-T = 160. OPEN-REC-COND-TYPE = AIR
OPEN-CENT-COND-PWR = 0.15 OPEN-REC-COND-PWR = 0.15
OPEN-REC-UNL-RAT = 0.1 ..

ENERGY-RESOURCE RESOURCE = ELECTRICITY ..
ENERGY-RESOURCE RESOURCE = STEAM SOURCE-SITE-EFF = 1.000 ..
ENERGY-RESOURCE RESOURCE = FUEL-OIL ..
ENERGY-RESOURCE RESOURCE = NATURAL-GAS ..

ENERGY-STORAGE HEAT-STORE-RATE = 10.0 HEAT-SUPPLY-RATE = 10.0
HTANK-BASE-T = 195.0 HTANK-T-RANGE = 5.0
HEAT-STORE-SCH = HX_SCHED ..

HEAT-RECOVERY
SUPPLY-1 = (HTANK-STORAGE)
DEMAND-1 = (SPACE-HEAT) ..

END ..
COMPUTE PLANT ..
STOP ..

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ENERGY TYPE IN SITE MBTU-	STEAM	ELECTRICITY	NATURAL-GAS
CATEGORY OF USE			
SPACE HEAT	3,140.87	0.00	82.03
SPACE COOL	0.00	560.55	0.00
HVAC AUX	0.00	714.96	0.00
DOM HOT WTR	746.04	0.00	0.00
AUX SOLAR	0.00	0.00	0.00
LIGHTS	0.00	1,546.76	0.00
VERT TRANS	0.00	0.00	0.00
MISC EQUIP	0.00	2,491.89	0.00
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TOTAL	3,886.91	5,314.16	82.03

TOTAL SITE ENERGY 9283.08 MBTU 120.8 KBTU/SQFT-YR GROSS-AREA 120.8 KBTU/SQFT-YR NET-AREA  
 TOTAL SOURCE ENERGY 19927.39 MBTU 259.3 KBTU/SQFT-YR GROSS-AREA 259.3 KBTU/SQFT-YR NET-AREA

PERCENT OF HOURS ANY SYSTEM ZONE OUTSIDE OF THROTTLING RANGE = 43.8

PERCENT OF HOURS ANY PLANT LOAD NOT SATISFIED = 0.0

NOTE ELECTRICITY AND/OR FUEL USED TO GENERATE ELECTRICITY IS APPORTIONED BASED  
 ON THE YEARLY DEMAND. ALL OTHER ENERGY TYPES ARE APPORTIONED HOURLY.

MO	UTILITY-	STEAM	ELECTRICITY	NATURAL-GAS
	TOTAL (MBTU)	770.789	425.936	23.454
JAN	PEAK (KBTU)	3584.218	903.754	178.853
	DY/HR	24/ 6	17/ 9	24/ 6
	TOTAL (MBTU)	578.522	386.062	15.855
FEB	PEAK (KBTU)	3027.336	903.541	151.871
	DY/HR	14/ 6	3/ 9	14/ 5
	TOTAL (MBTU)	586.412	428.729	14.512
MAR	PEAK (KBTU)	2821.010	903.630	130.843
	DY/HR	28/ 6	30/ 9	28/ 5
	TOTAL (MBTU)	317.605	418.700	3.629
APR	PEAK (KBTU)	1777.003	983.454	89.455
	DY/HR	1/ 6	15/12	1/ 5
	TOTAL (MBTU)	187.350	450.100	0.587
MAY	PEAK (KBTU)	1236.604	1091.280	54.226
	DY/HR	2/ 6	31/15	4/ 5
	TOTAL (MBTU)	83.016	465.208	0.000
JUN	PEAK (KBTU)	386.308	1190.391	0.000
	DY/HR	8/ 6	17/12	30/ 1
	TOTAL (MBTU)	76.964	509.034	0.000
JUL	PEAK (KBTU)	222.758	1467.102	0.000
	DY/HR	25/ 6	18/12	31/ 1
	TOTAL (MBTU)	81.364	491.568	0.000
AUG	PEAK (KBTU)	315.505	1204.367	0.000
	DY/HR	6/24	8/12	31/ 1
	TOTAL (MBTU)	100.981	455.840	0.000
SEP	PEAK (KBTU)	592.315	1394.680	0.000
	DY/HR	23/ 6	5/10	30/ 1
	TOTAL (MBTU)	189.544	437.539	1.522
OCT	PEAK (KBTU)	1125.454	1003.945	60.114
	DY/HR	28/ 7	10/ 9	28/ 5
	TOTAL (MBTU)	343.744	417.440	7.046
NOV	PEAK (KBTU)	2122.857	1016.824	109.876
	DY/HR	28/ 6	1/ 9	28/ 5
	TOTAL (MBTU)	570.583	428.023	15.419
DEC	PEAK (KBTU)	2583.354	933.643	139.124
	DY/HR	26/ 6	9/12	26/ 5
	ONE YEAR	3886.872	5314.179	82.025
	USE/PEAK	3584.218	1467.102	178.853

**P L E A S E   R E T A I N**

**T H I S   B I N D E R**

**F O R   F U T U R E   U S E**